WOODLAND CREATURES

FRANCES PITT

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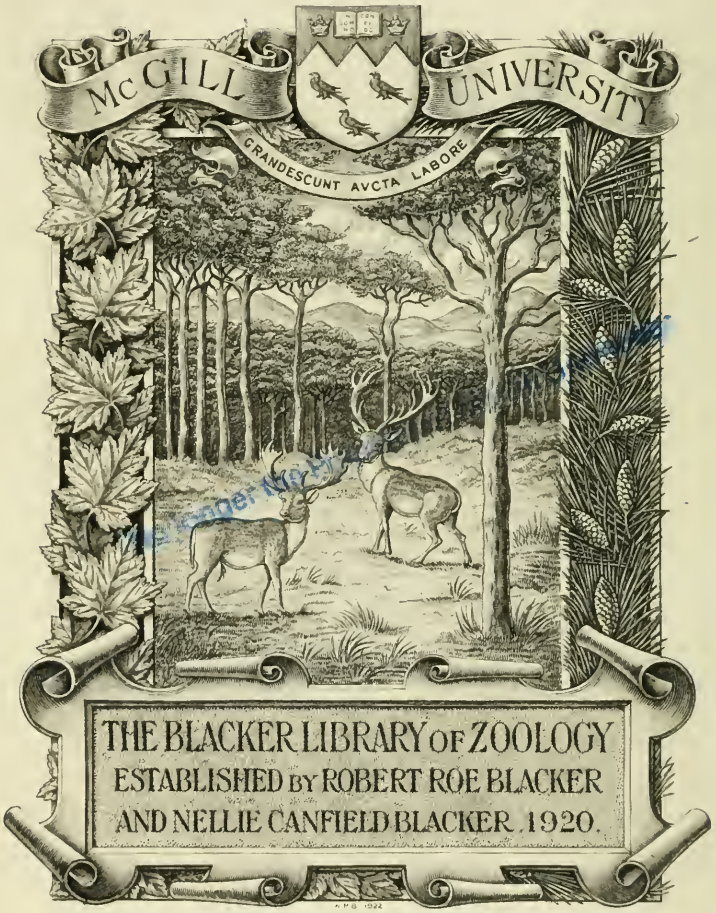

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WOODLAND CREATURES

BEING

SOME WILD LIFE STUDIES

A BADGER ROOTING IN THE MUD AT THE SIDE OF A POND.

Frontispiece.

Woodland Creatures

Being

Some Wild Life Studies

By

Frances Pitt

Author of "Wild Creatures of Garden and Hedgerow,"
"Tommy White-tag, the Fox"

LONDON: GEORGE ALLEN & UNWIN LTD.
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PREFACE

IN this book are given notes and observations on wild creatures that may be met with in our woodlands. Some of them live entirely in the woods, others use the trees as home and headquarters, sallying forth from their shelter into the open country, but all may be ranked as inhabitants of forest and coppice. That certain well-known birds and beasts are not included is due to two reasons: several have already been dealt with in my book *Wild Creatures of Garden and Hedgerow*, and for many others there was not space. To deal with *all* the birds and mammals that may be met with in the woods would need, not one, but many volumes. However, the reader will find herein accounts of a number of our "Woodland Creatures," some common and others uncommon, but all to me equally interesting, for in fascination and charm the wild life of the forest districts yields to none.

Scientific terms have been avoided as far as possible, my aim being to give a plain account in plain language, but, for the convenience of those who wish for the Latin titles, a note has been inserted at the end of each chapter, giving

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the scientific name of the species dealt with, its status, and distribution.

The chapters on "The Woodpeckers," "The Fox," and "The Bullfinch" have previously appeared as essays in the *National Review*; those on a "Creature of the Night," "The Call of the Wild," the "Common Rabbit," and "The Squirrel" were published as articles in the *Badminton Magazine*; and that on "The Dormouse" came out in the *Contemporary Review*; to the respective Editors of which I am indebted for their kind permission to reproduce the essays in this book. I must also acknowledge the courtesy of the Editor of the *Field*, in allowing me to use as illustrations three photographs of mine that have appeared in his paper.

FRANCES PITT.

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WOODLAND CREATURES

CHAPTER I

THE BADGER—A CREATURE OF THE NIGHT

WILD creatures belong either to the night world or the day world, for those that hunt by the light of the moon rarely come out in the sunshine. It is among the creatures of the dark that we find some of the most interesting, also the shyest of wild animals, and of all the timid beasts there is not one which is more mysterious and elusive than the badger. How many people have seen a wild one? Not many, for the animal seldom ventures to leave its deep earth, situated in some lonely dingle or great woodland, until night has really come, and it is home again and far underground before there is any hint of dawn in the eastern sky.

The badger is one of the last of the larger wild animals that exist in any numbers in the British Isles. It is *really wild*, it lives on despite all that mankind has done to destroy it. The red deer,

the fox, and so on, live and thrive because we let them do so; they provide sport, and we therefore protect them. The really wild animals are those which are never protected, yet continue to exist. The lesser creatures manage to hold their own because they are small, escape notice, and can get away easily, but with the bigger species, especially the carnivorous ones, it has gone very hard. The last few hundred years has seen the wolf, the wild boar, and the beaver exterminated. The pine marten has all but followed them, being now found only in a few remote districts, such as the Fells of the Lake Country; the wild cat seeks a refuge in the Highlands of Scotland; and the polecat's last stronghold is in the Welsh mountains; yet the badger, with every man's hand against it, still exists in some numbers throughout England, Ireland, the Lowlands of Scotland, and Wales. No shadow of mercy, let alone protection, has ever been extended to it. From those long gone-by days when wolves and beavers made their homes on our hills and in our valleys, up to the present time, it has struggled grimly and gamely, against great odds, for mere existence, seeing its neighbours gradually exterminated, and, though an awkward, ungainly beast, apparently doomed to follow them, has by reason of its great strength and digging powers been able to survive, though with lessened numbers.

In former times the badger must have been exceedingly plentiful, for the word "brock," the

Celtic name for the badger, forms part of the title of so many villages—there are Brocktons, Brocklesbys, etc., in many parts of the country whence badgers have long since vanished. Yet, even if it is not as numerous as it used to be, the badger is by no means scarce, and in some places it is increasing. This may be partly a result of the war, the keepers having had something better to do than persecute these poor inoffensive animals. It is not easy to find out the true state of the badger population in a strange neighbourhood, for most of the country people do not know that there are such creatures about. Those who know the most are the poor badger's most determined foes, namely the gamekeepers, rabbit-catchers, and earth-stoppers, yet these men seldom set eyes on this creature of the dark, which goes about its work so secretly and silently, never, or hardly ever, getting caught by the rising sun.

At the present time the badger is numerous throughout that part of the country that was known in history as the Welsh "Marches." It loves the great woodlands and the wild dingles that lie along the borders. It is also fairly common in the Midlands, and in many other localities, but it usually prefers well-wooded districts. A description of one of its strongholds may be taken as typical of many others. This earth is situated in a large wood, a remnant of the great forest that once extended unbroken from the west bank of the Severn into the heart of Wales. It is traversed by several small streams

that tumble over moss-grown stones and boulders at the bottom of deep dark dingles, where few but the wild creatures ever come. In the very heart and centre of the wood, where the big oaks seem to grow taller and stronger than elsewhere, where the dingle is deeper and darker than ever, the badgers have their headquarters. It is a lonely spot, the dingle, it might almost be called a gorge, is clothed with a thick growth of brambles, bushes, and big trees. Oak, ash, and many dark yews cling to its steep sides, which in places fall sheer to the torrent below, where the rocks are clothed with mosses and green liverworts, and over which only the dipper, the heron, and the otter find their way. The last named only comes now and again, for the trout in the brook are very small, though beautiful little fish, daintily spotted with red and black.

The greatest disturbance this lonely spot knows is when hounds come, or the shooters disturb it, but this does not happen more than twice or thrice during the season. So the well-beaten paths, which traverse the thickets, and wind their ways up the sides of the steep banks, do not owe their smooth surface to human feet. A little knowledge of tracking and footprints does much to solve the mystery, for in the soft muddy places, where the rainwater has collected and formed puddles, are the pad-marks of the creatures that passed in the night; there is a small narrow neat footprint, which tells where a fox went by, and there are many big deeply impressed tracks,

which the novice might mistake for those of a heavy dog, but the hind pad, the "sole" of the foot, is bigger in proportion to the toes than is the case with any dog; besides, where the trail is very plain, one will see that the owner has five toes on each foot, whereas a dog has only four that make an impression in the mud.[1] Once a badger's track has been seen and recognized, it can never be mistaken for that of any other animal. Indeed, to learn much about badgers one must study their trails carefully, so as to know their footprints at sight, and to understand what every scratch and claw-mark signifies. One can then read on the paths, in the damp earth, and on the woodland rides, the story of each night's doings—how a wasps' nest was raided, how the moss was turned over in the search for grubs, and how a dead rabbit, left by that blood-thirsty scoundrel the stoat, was turned to good account.

In the wood that I am describing one can study these things, for there are badgers' tracks on all sides; they have their well-used paths, which lead chiefly to the great earth, or "sett," which is situated at the top of one of the steep banks. There are other badger earths in the covert, but this is the stronghold, the ancient fortress, of the tribe. The entrance holes are on the very verge of the bank, which drops steeply to the stream a hundred feet below, so there is

[1] The fifth toe of the dog is the little "dew-claw," which is situated too high on the leg to leave an impression in the mud.

no great accumulation of soil outside the holes, for it rolls down the bank as quickly as it is scratched out. Thus there is little to tell of the great size and length of the underground passages, still less to show where they go to. The one entrance is partly hidden under some bushes, blackthorn and spindle, but the other has nothing to hide its mouth. Such tunnels they are too! Great holes, fringed round with roots from the neighbouring trees, their sides scored with the marks of the badger's claws, and littered about with the fern and grass that the inhabitants have been drawing in for bedding. This earth has existed for many, many years. Generation after generation of badgers have been reared in it, died, and given place to others who have dug and delved in their turn. Each badger has done its bit towards extending the chambers, until the sett must be an underground maze. By the way "sett" is the correct term for a badger's home, which should not be called an "earth," though the latter word is much more descriptive. The stronghold in question is, from a badger's point of view, beautifully situated, for it is in a layer of sand that lies between the clayey top soil and a bed of rock. These conditions are those most sought after by both badgers and foxes when scratching out a home, for the sand is kept perfectly dry by the overlying strata of clay, and at the same time it affords them splendidly easy digging. Such soil for a badger is mere child's play, and

with its great strong claws it can burrow in it as quickly as a man can dig. As some indication of what the badgers have done in this particular bank, I must say that one day a hunted fox took refuge in the sett. As there was little sign of the great size of the place, a terrier was allowed to go in. It was heard barking a long way underground. Willing diggers started to open the hole, and dug for the rest of the afternoon. Late in the evening the terrier was recovered badly bitten, but there was no sign of the fox. To cut a long story short, digging was continued for three days, a large piece of ground was cut away, tunnels upon tunnels were exposed running in all directions through the sand, the terrier could be heard first in one place and then in another, and there seemed no end to it all. The third night the attempt was given up; neither fox nor badgers were ever dug out, so that the only result was much waste of time and labour. This happened some years ago, and now one can hardly trace where the attempt was made. The soil has fallen into the trenches, the kindly ferns and mosses have healed the scar, and all looks as it did before. The two well-used entrances testify that the owners are still living in it.

Having given a description of the badger's home and its surroundings, it may be as well to say something of the creature itself. It is a powerful short-legged animal of heavy build, a male, or "boar" as it should be called, often weighing as much as thirty pounds, the female being

somewhat less. Its short legs and long snout rather suggest the bear, and the way it noses about among the undergrowth is still more bearlike, but this resemblance is merely superficial, for its nearest relatives are the stoat, marten, polecat, and otter, with which animals it is grouped in the family *Mustelidæ*. It is certainly difficult to realize, when one looks at a badger, that this big heavy animal, some three feet long, with its thickset, not to say clumsy, body, short tail, hunched back, and long head carried low to the ground, tiny eyes and little ears, is allied to the nimble and quick-moving stoats! In colour there is still less resemblance, the badger being clad in a long, thick, rough coat of grey fur, its legs and stomach being black, its head striped with black and white, and its tail white. A more startling scheme of markings one could not meet with. The black, white, and grey are as noticeable as an advertisement on a hoarding, or the conspicuous colours of a wasp that wishes to remind all the world that it can sting. Many creatures, especially insects, wear warning colours, thereby letting their enemies know what they are, and that it will be better to leave them alone. Among mammals the skunk is the best known example: it is most conspicuously marked with black and white; it advertises "let me alone" as plainly as possible; its black and white uniform reminds other creatures of the awful smell it can emit when interfered with, and they let it pass by in peace. The badger,

however, has no such means of defence, though it has exceedingly strong jaws which make other animals loath to interfere with it. There is no animal that can inflict a worse bite than this one. The lower jawbones, the mandibles, work in such deep grooves where they are hinged to the skull, that they cannot be dislocated. I have a skull that was picked up by a stream where it had long been exposed to wind and weather, and, even now, one would have to break some part of it to detach the lower jaw from the upper. Another peculiarity of the badger's skull is the strong bony ridge (sagittal crest) that develops along the brain-case of adults. The result is that an old badger can take tremendous blows on the head and not be any the worse! It is also well armoured about the body, especially the neck and shoulders, where its hide is so thick that it is difficult for any foe to get a grip of it. Its one weak spot is the chest, but it keeps its head low, so that this is well guarded. One sometimes sees pictures of badgers with their heads up and their mouths open, as if snarling defiance at all and sundry, but nothing could be more misleading or unlifelike. The badger, of all animals, keeps its mouth shut when it means business. When it finds itself in difficulties it backs into a corner, drops its nose between its paws, and keeps a keen look-out with its sharp little eyes—then woe to any creature that comes too near; the head flashes out, the great jaws crunch, and the foe has received a bite it will

not forget in a hurry! But the badger only acts on the defensive: it is a most peaceable creature; it lives and lets live, and never goes out of its way to assail others. This brings us back to the meaning, if any, of its peculiar coloration. I think the conspicuous markings serve as a warning, but I must add that under certain conditions they may help to hide the animal. At first this seems impossible; one would expect the badger under all circumstances to show up like "a bar of soap in a coal-scuttle," but it should be remembered that it is a strictly nocturnal animal, and in a state of nature never ventures out during the daytime, and that markings which are very easily seen in the sunlight may have quite a different effect by moonlight. This was brought home to me when I was exercising a tame badger one evening. I lost sight of "Diana," and could not see her anywhere. I began to wonder where she had gone to, when she moved, and I saw she had been close beside me all the time, but in the fading light her markings blended well with lights and shadows in the bushes.

Diana Muggins, to give her her full name, was brought to me as quite a young cub by a keeper who had trapped her at the mouth of the big sett which has been described. A week later he brought her sister, which cub received the title of Jemima Muggins. How they got such names I do not know; some one christened them, and the names stuck. Having got over the abject

BADGER-CUBS SCRAPING MOSS OFF A TREE, IN SEARCH OF INSECTS AND OTHER SMALL THINGS.

fear that she showed during the first two or three days, Diana quickly became tame—she soon found out that I was a friend, and would follow me wherever I went; but Jemima had had another week of freedom, and nothing I could do would quite allay her suspicions of the human race, especially such people as she had not seen before. When the cubs were caught they were probably between six and eight weeks old, for their teeth were well developed, and they could eat anything that was given them. As I got them early in May, this places their birth at the beginning of March, which is about the usual time for young badgers to arrive. I have known of cubs being born at the beginning of February, but this was unusually early.[1]

I was saying that my two cubs had well-grown teeth, which at first they used freely, but this undesirable habit was soon overcome, especially in the case of Diana, who developed rapidly into a most charming pet. She soon learnt to follow as well as any of the dogs, and would go for quite long walks, even through the woods, without ever straying off or getting lost. When she found she was being left behind she would cry and whimper most piteously, so that I had to wait for her to catch me up. Several times on a summer evening I have heard exactly the same baby outcry in the woods, and mingled with

[1] Mr. A. H. Cocks, in the *Zoologist* of 1904, showed that badger cubs are invariably born between the middle of February and the end of March.

it the short gasping grunt of an old badger, so that I feel convinced the mother allows her cubs to follow her on her rambles. Moreover, I have often found big and little tracks mingled on the pathways and where the badgers are in the habit of crossing a small stream. One can picture the family party setting forth through the dim mysterious woods, the sow jogging steadily on, while the lively youngsters race and romp, stopping now and again to nose among the moss and ferns, then finding themselves left behind, and thereupon raising that outcry which I have heard echoing through the trees on a summer night.

Diana most certainly never took any chances; if she lost sight of me for but a moment her squalls rent the air, when I had generally to go back to her and make her come along. If tired, she would stand up on her hind-legs and paw at my skirt, until I picked her up and carried her. This was all right while she was fairly light, but she grew so fast and developed so amazingly, that I soon found her far too heavy to carry. It is no joke to nurse a three-parts grown badger, of that I can assure my readers! The cub had one very annoying trick, of which I was never able to break her. If I stopped to talk to anyone, and she could not get my attention, if pawing and scratching would not make me pick her up, she would delicately pinch me in the calf of the leg! She never really hurt, it was the gentlest of nips, but it was very startling; in fact, she never failed to make me jump. I always thought

that she enjoyed the joke, though I failed to see where the fun came in!

When taken indoors Diana preferred sitting in one particular arm-chair, but, if she could not have it, she would run round the room until she found me, when she jumped into my lap. Though heavily built, and somewhat ungainly in appearance, she was extraordinarily nimble. She could keep pace with any of the smaller dogs, and enjoyed great games with them. Jemima never joined in these romps; for one reason I was rather afraid to trust her loose, as she was very nervous, but Diana was quite different. She knew no fear; she would gallop, play, and roll about with them as long as they liked. Her first intimation that she was ready for a game consisted in putting every hair on her body on end, so that she looked twice her normal size, when, if the dog took no notice or did not understand, she would give a snort and charge straight at it, as did the knights at their foes in the "days of old." The unfortunate dog, being caught "amidships," was usually knocked head over heels, but terriers, spaniel, and retriever alike all took her rough treatment in good part. They just picked themselves up and rushed upon her in her turn. The two would then roll over together, after which they would gallop and roll, gallop and roll, until they had no breath left, and had to stop from sheer exhaustion. When neither could go on any longer, Diana would waddle slowly back to me, her pink tongue hanging out, and look up at me with her

cunning black eyes as if to say, "Do pick me up; I'm so tired!"

The cub always showed her emotions through her fur. When frightened she fluffed her tail out, when either angry or joyously excited she put her whole coat on end, and when hunting for eatable morsels among the grass and herbage, ripples kept running up and down her back.

As regards food, they were not at all particular, they would eat most things, but as a treat there was nothing they liked better than good fruit cake. Next in order of their preference came cheese, which they much appreciated, but in this they were not peculiar, for many wild creatures love it. Such different animals as the shrew, mole, and pine marten will eat it greedily. The two cubs lived principally on dog-biscuit and bread soaked in milk, varied now and again with rabbit flesh; this kept them in splendid health and condition, but I have always found badgers do well on such a diet. They were thirsty creatures, and their water-tin had to be filled every morning. When out for walks they would eat with relish a certain pale-coloured fungus of the "toad-stool" description. Diana also loved frogs, hunting them through the long grass until she could get near one, when she would pounce upon it and crunch it up. Both the cubs enjoyed fish, and, as there were a lot of roach in one of the ponds by the house, my brother often caught some for them. They ate the fish greedily, snatching at the

silvery morsels, and shouldering each other off while keeping the treasure between the fore-feet. In fact, they behaved rather like pigs at the feeding trough! Another thing of which they were very fond was carrion, such items as a semi-putrid rat, or a decidedly high rabbit, being eaten with the greatest relish. There is no doubt that the wild badger is a great scavenger, eating almost anything that comes in its way. It is no hunter—it seldom catches prey for itself; its very tracks show one that. It just blunders along anyhow, and cares not a jot who hears it coming.

The badger is a great insect eater, being especially fond of wasp grubs. Its handiwork is easily recognized, for after it has raided a wasps' nest there will be very little of that colony left. It does not matter how deep the nest may be, the badger will dig straight down and uncover it, and then scrape out the whole, devouring comb, grubs, paper covering and all! There is nothing left the following morning, save a few angry insects buzzing round, in wait to wreak their vengeance on the first comer. Badgers must be nearly if not quite invulnerable to their stings, for no nest is too large or powerful for them to attack. I have often seen instances in the late autumn, when the wasp colonies have grown big and strong, where they have partly eaten a nest one night, and had to return the following evening to clear it up, but the second night there would not be a morsel left. Badgers

are also very fond of "bumble"-bees' honey, and these insects receive scant mercy from them. With their keen noses they search out the nests that lie hidden among the herbage, and then make short work of the contents, for they care nothing for what the bees may do; that fur coat and thick hide which was impervious to the stings of the energetic wasps is even more efficient as a defence against the less active humble-bees. One day I found a bees' nest, belonging to a species that heaps shredded leaves over its pile of cells, that had been raided overnight, but the badgers had left one or two cells uneaten, and these the surviving bees were at work upon. Within a day or two the plucky insects had reconstructed their home, but alas! three weeks later the badger revisited the spot, and this time left nothing!

Badgers also eat a goodly number of beetles, as one may judge from the wing-cases you see in their droppings. My cubs, moreover, were partial to earth-worms, and I cannot doubt that a badger will eat almost anything that comes in its way. They certainly dig out and devour any nestfuls of young rabbits that they may chance to sniff out, but in most districts this is a point rather in their favour than otherwise. Keepers, of course, assert that they do great damage to game, and I do not doubt that a badger would demolish eggs if it chanced across them, but in a district where game is plentiful, and badgers numerous, I have never met with an

1. THE BADGER CUBS PLOT MISCHIEF.

2. DIANA SNIFFING ABOUT FOR GRUBS AND INSECTS.

instance of interference with either pheasants or partridges, which is more than I can say for our friend the fox! The worst that I have known badgers guilty of is taking rabbits out of snares, leaving merely the skins turned neatly inside out. Even at this they are not so tiresome as foxes. A fox will go round the "wires," eat half one rabbit, bite the head off the next, spoil the third, and so on, but the badger eats one or two and leaves the rest. The sign of its work is the skins turned inside out, it is wonderful how neatly it does this, the accomplishment being quite its own. Probably the tiny birds, such as the willow wren, robin, and others that nest upon the ground, suffer most from the badger. Their young ones remain from ten to fourteen days helpless in the nest, and are tempting morsels for any hungry brock that is nosing round. It also accounts for many nestfuls of young field-voles, being one of the creatures that help to keep down this prolific little rodent. The badger is said to be very fond of hedgehogs, but I have never found any evidence in support of this, though hedgehogs abound here, and any badger that was so disposed could find as many as it wanted. It has also been asserted that it is very partial to the roots of the wild arum or "Lords and Ladies" (*Arum maculatum*),[1] but again I cannot confirm this. The plant is particularly abundant in Shropshire, yet the only

[1] Mr. L. C. Hocking, in a letter to *Wild Life*, vol. vi, No. 4, p. 125.

instances in which I have found it scratched up were due to wasps' nests beneath its roots! However, I have known a badger eat crocus bulbs, which came about in this way: I had had for some time a badger called Grumps, but he was a surly unsociable creature, and I turned him loose in the woods, thinking when I did so that I had said "good-bye" to him. Some six months later strange tales crept about concerning some animal, kind unknown, that night after night was digging up the bulbs planted in a neighbour's garden. It appeared that the gardener had been planting a quantity of crocuses and other bulbs in the grass, using for the purpose an instrument that removed a little piece of sod, which was afterwards dropped back on to the top of the bulb like a cork into the neck of a bottle; but each night the mysterious animal came, drew these corks, and ate the bulbs. The keeper was called in, pronounced the tracks to be those of a badger, and traced the culprit to a big drain in the meadow. The pipes were soon pulled up, the bulb-eater secured, and placed in a bag, when the keeper lost no time in bringing it to me. The badger, a fine male, was turned out in a building, when I was startled to see that it was my old friend Grumps. It walked with a slight limp, as did Grumps, it had a white mark on its left fore-paw, just as he had, moreover it knew where it was, and did not seem in the least put out of the way. Next day I took him to the great sett and turned him into that stronghold.

He vanished down one of the entrances, and that was the last I saw of him. It was here that Jemima likewise came to join her wild relatives, for one evening Diana felt the "call of the wild" and vanished into the twilight never to return, so that the unfriendly Jemima was left alone, whereupon I decided to give her liberty, and took her to the big woods, to rejoin her clan, where I hope they all lived long and merrily.

Perhaps Grumps met here an old acquaintance, for while living with me he had had the companionship of a fine female badger, which badger escaped one night and left him behind. They were kept in a building that had originally been a pigsty, and had walls four feet high, on the top of which a fence of upright iron bars had been placed, the whole being quite eight feet in height. The bars were only an inch apart, so it was impossible for anything to squeeze between. The place was roofed over by strong wire netting resting on iron cross pieces; in fact it appeared quite badger proof, but it was not! For several nights beforehand the wild badgers had been visiting the place, for each morning there were fresh muddy footprints on the door, showing how they had tried in vain to reach those inside. Then there came a morning when there were even more padmarks than before, the strangers must have spent the greater part of the night there, and they had not gone away alone, for there was a hole in the wired roof, and

a wisp of coarse grey fur left on the top of the paling. Somehow or other the female badger had managed to scramble up and force her way through, but it was always a mystery to me how she managed it. One of the farm labourers went so far as to say the wild badgers must have got on the roof of the pigsty and helped her out! At any rate she eloped with them and left Grumps behind!

This female had been sent to me from the south of England, and soon after her arrival, during the first week in February, a feeble squeaking arose from her sleeping compartment. Knowing that the cubs would not live long if interfered with, I padlocked the outer door, and only went in when necessary to give her food and water, but the precautions were in vain. In a few days all became quiet, and when I did venture to look inside not a vestige of a cub was to be seen. She must have eaten them, a fate that so often overtakes babies of the wild when born in captivity.

Hoping the old lady would settle down better if she had a companion, and possibly mate with him later on, I moved Grumps into the place where she lived, with the result given above.

There is some doubt as to when wild badgers mate, but my opinion is that September and October is the usual time, the cubs arriving in the following February or March, but there are some well-authenticated cases of female badgers having young after being over twelve months

in captivity,[1] and in two instances after fifteen months' solitary confinement,[2] but these cases are almost certainly abnormal and due to captivity. Though badgers are somewhat silent animals, they become noisy enough when the all-important business of choosing a mate is undertaken, and will then make the night ring with their clamour. There was one evening which I shall never forget (September 12, 1920), for the badgers held a great concert that night. I went out about 9.50 p.m. to shut a dog up; it was a still beautiful evening, there was no moon, and it was very dark. I stood for a moment listening to the owls, which were hooting on all sides, their calls ringing very loud in the stillness. Suddenly there was a blood-curdling shriek, a piercing, agonizing cry, which was repeated at intervals of a few moments. Even by day it would have been a startling noise, but heard in the dark it was terrifying! My first impression was that a vixen had uttered it, for the love call of a vixen is a similar fiendish cry, but she does not repeat the sound, and this lamentation rose again and again on the still night air. My brother had come out, and together we stood and listened, and it became evident that the creature was moving along the covert-side, but it was too dark to see anything.

[1] Lydekker says, "The probable explanation of these discrepancies is that in certain cases, as in the Roe-deer, the impregnated ovum undergoes a period of quiescence before development; such retardation being not improbably induced by captivity." (R. Lydekker, *British Mammals*, p. 131.)

[2] See A. H. Cocks, *The Zoologist*, 1904.

We could only make out the dark shapes of some cattle, and the indistinct black mass of the trees. The cry was still repeated, it came nearer and nearer, until the creatures (there seemed to be more than one) could be heard moving over the grass. Then they made off again, after which the melancholy noise came from the original spot beside the wood, where it subsided into a series of gasping grunts. We then realized that we had been privileged to hear the love-making of a pair of badgers. We stayed and listened, we heard them go snorting and grunting through the wood, but at last all sound died away, and it became evident that they had gone off for their night's hunting.

It is often said that badgers are solitary morose animals, but this is by no means accurate. Not only is it usual for several to live in the same sett, but they will tolerate the presence of other creatures. I have found traces of rabbits going in and out of the great earth, where they evidently use small side holes off the big badger tunnels. Besides which cases have been recorded of a badger and a vixen rearing their respective families in one earth, but no doubt the latter took good care to keep her litter out of the way of the old sow. It is a common thing for a hunted fox to take refuge in a badger sett, which generally affords it a safe retreat. For this reason, and others, badgers are not popular with Masters of Hounds. They say they take possession of fox-earths and turn out the owners, that they open

holes that have been stopped overnight, and last but not least that they murder fox-cubs. I have never met with the slightest evidence that supports the latter contention. That they will open badly stopped holes is true, but if the earths are properly stopped by pushing a good bundle of faggots, sharp points outwards, down the holes, even the badgers strong claws will be defeated. The charge of taking possession of fox-earths, artificial or natural, is certainly founded on fact, but is really a blessing in disguise, the badger being a cleanly animal and the fox the reverse. When a badger takes up its lodgings in a hole it immediately cleans it out, scraping away all dirt and rubbish, after which it gathers a quantity of fresh bracken, grass, and leaves, which it draws down the tunnel and makes into a warm nest. In a day or two when the bedding has become soiled and damp, it is thrown out, and a fresh lot brought in. For this reason the doorstep of a badger's dwelling will be piled round with discarded rubbish, and littered too with fresh fern that has fallen as it was being drawn in. By the way, a badger moves backwards, nearly as easily as it goes forwards, and when gathering litter it shuffles tail first down the hole, drawing armfuls of fern along with it. A consequence of its cleanly habits is that the badger never, or hardly ever, catches mange, and in districts where there are plenty of badgers the foxes also keep fairly free from it, which may be

attributed to the "spring-cleaning" habits of the badger.

In very bad weather badgers remain curled up in their warm beds deep underground, but they cannot be said to really hibernate, as they never rest for long, and are soon out and about again, which you can easily prove by looking for their tracks, which you can find all the year round save for short periods in the very coldest weather. Even severe frost never put my tame badgers to sleep, but Grumps did lie up once, during warm weather, because I had changed his quarters, but his sulks only lasted for a week.

It is sometimes stated that badgers mark the trunks of trees by standing against them and "sharpening their claws" like cats. In all my wanderings through badger-haunted woods, I have never come across the slightest trace of their doing so, and as they cannot retract and extend their claws like the cat, it seems, to say the least, most unlikely that they ever do anything of the sort. The nearest approach to such a habit is that they will sometimes scrape moss off a tree trunk for the sake of grubs hidden beneath it; indeed, I have a photograph of Diana in the act of doing so, but this is a different matter to sharpening their claws in the timber.

In concluding this chapter I would beg anyone who has the chance of doing so to protect this most interesting and inoffensive animal. If those who befriend the badger gain no other reward, they will have the satisfaction of knowing that

they are helping to preserve one of the last of the bigger wild animals that we have left in these Islands.

(*The badger,* Meles meles, *Linn., is found from Ireland throughout Europe, the eastern limits of its range being unknown. It shows little or no variation in the British Isles, except that an occasional erythristic specimen is met with. In this sport, or mutation, all the parts normally black are a light red-brown, the grey fur becomes pale fawn, and the eyes are pink. I had a fine female of this type that had two normally coloured cubs.*

The Spanish badger is a trifle larger than that of the rest of Europe, and it is also somewhat paler in colour, so this geographical race has received recognition as a sub-species of M. meles *under the title* M. m. marianensis, *Graells.*

In Crete is found a rather small badger which Miller ranks as a separate species, giving it the name Meles arcalus, *Miller. These comprise the European badgers.*)

CHAPTER II

THE WOODPECKERS

OF all the woodland birds there are few that belong more completely to the trees than the woodpeckers, being seldom seen in the open save when flying from one covert to another. Even on the wing they are quite different from other birds, for they fly with a peculiar undulating flight that marks them at once. Five or six strokes of their short, strong wings take them upwards, only to glide downwards and forwards, once more to ascend, and so on, as if rising and falling on invisible waves.

From the tips of their strong beaks, to the ends of their short, stiff tails, the woodpeckers are specialists, being wonderfully adapted for tree-climbing and wood-boring. There are three kinds in this country—the Green Woodpecker, a fair-sized bird, the general hue of which, as its name betokens, is green, though a subdued green it is true, however this is relieved by its yellow rump and brilliant scarlet crest; secondly there is the Greater Spotted Woodpecker, slightly

smaller than the Green, and prettily pied with black and white, which is set off by its scarlet ventral feathers, and, in the male, by a red cap; and thirdly the Lesser Spotted which is similar to the Greater Spotted, only it is much smaller, being little bigger than a chaffinch. The Green Woodpecker is the most widely distributed of the three, but the Greater Spotted is fairly plentiful in most parts of England, that is wherever there are big woods, for its very existence is bound up with the trees. The district round my home is a heavily timbered one; big woodlands cover a considerable part of the country, with the result all three woodpeckers are common. The brilliant Green Woodpecker is an everyday visitor to the wall of the sunk fence that ends the lawn in front of the house, where it inspects the ant colonies that lurk behind the stones, probing into the crevices, and bringing to light the unfortunate insects. The dainty and diminutive Lesser Spotted Woodpecker is less conspicuous, also less plentiful, but it exists in fair numbers, a most charming inhabitant of the higher boughs of the great oaks. One may see it flitting from branch to branch, running up and down them like a mouse, and then doing the vanishing trick by slipping round a bough, so as to place solid wood between it and the observer. As for the Greater Spotted, it is everywhere; one hears its peculiar sharp call on all sides, one catches glimpses of its distinctive black and white plumage as it slips from tree to tree, or of the scarlet patch

at the back of its head as it peeps cautiously round a trunk.

It is more strictly arboreal than the Green Woodpecker, which latter, as already mentioned, though essentially a tree bird, is not above descending to terra firma, especially to raid an ants' nest, when it probes the teaming city with its long strong bill, reaping a rich harvest among the larvæ and fat pupæ in their white shroud-like cocoons. Now I have never seen the Greater Spotted Woodpecker on the ground, though it is very plentiful here, having increased so much of late that it quite outnumbers the Green Woodpecker. In most parts of England it is regarded as a somewhat rare bird, and until five or six years ago it was by no means common here, but it has increased tremendously. Up to 1917 a certain wood had only one resident pair, and I do not think there was another pair within a half-mile radius. Next spring there were three nests in the area, and during the spring of 1920 at least half a dozen pairs reared broods within the same limits. That this increase was partly natural, due to suitable seasons, a plentiful food supply, and so on, is shown by the way the species has been extending its range in other districts where it was formerly hardly known. It has been reported as spreading steadily northwards into Scotland, where it used to be very scarce.[1] But the local increase that I write of, was, I believe, largely due to another factor,

[1] See *British Birds*, the *Scottish Naturalist*, and other periodicals.

behind which we find the war as a cause! During the war, when timber was so urgently wanted, certain big coverts in the district were cleared, hardly a stick being left standing. One of these woodlands contained a quantity of fine old silver birches, which trees were a stronghold for woodpeckers, especially the Greater Spotted, which loves the graceful and soft-wooded birch. At all times of the year one could hear the sharp short call of the Spotted 'Peckers, see them flitting with the characteristic undulating flight of their tribe from tree to tree, and in the spring their drumming vibrated far over hill and dale. When the timber felling began all was changed; nothing was spared; sturdy oak and stalwart ash, the useless but beautiful old birches, together with many others, went down before the axe. The quiet and peaceful wood, where one heard nothing all day save the cries of the Spotted Woodpeckers, the mocking laugh of the Green ones, and the angry scolding of a squirrel, became a scene of noisy animation. The shouting of the timber haulers to their horses competed with the rasp and roar of the saw benches, and the engines that drove them, for the timber was cut up on the spot; but what a wreck and ruin was the wood!—trees felled on all sides, mighty giants lying prone, every twig of under-growth chopped off, and the delicate mosses and ferns trampled into the ground, while the woodland rides were churned by traffic, by the logs hauled along them, into a sea of

red mud. No wonder the woodpeckers flew away!

The area affected was not a large one, but it embraced the ancient stronghold of the woodpeckers, and quite a number must have had to seek fresh quarters. At any rate about the same time I noted the marked increase, already referred to, of the woodpecker population of the coppice by my home. There were not so many birches in this covert, but there were other soft-wooded trees, such as poplars, aspens, and so on. The preference of the Greater Spotted Woodpecker for the silver birch is most marked; for one nest found in other trees you will find three or four in this. If one could credit a bird with being self-conscious one might imagine it knows how lovely it looks in its black, white, and scarlet plumage, upon the graceful silver-barked tree, with its delicate drooping branches and feathery foliage. But as it is extremely unlikely that any such idea ever enters the woodpecker's head, we must turn for the reason of its preference to the soft wood of the birch, which leads to early and rapid decay, when it not only affords soft material in which to bore, but also harbours many grubs and insects that form the staple food of this bird. Hence the silver birch is the favourite hunting and breeding ground of this smart black and white woodpecker.

For its nest it usually selects a spot some ten or twelve feet, or it may be more, from the ground, and invariably on the northern side of the tree,

I have never found a nest on the sunny side of the trunk. Only bird photographers can appreciate what an annoying habit this is, for an attempt with the camera means working under the most difficult conditions of light and shade, the nest being in the shadow while the light shines into the lens. As there is usually a reason for such a habit, we may ask whether it has anything to do with keeping the young cool, though you would imagine that it would have to be a very hot sun to penetrate through the wooden walls of the nest, but young birds are sensitive to the slightest extra warmth. I have seen nestling skylarks, when the sun shone on their nest, so distressed that, after lying and panting for a time, they at last crawled out and took refuge in the surrounding herbage. Young buzzards too I have seen lying prone in their nest on the side of a mountain ravine, gasping helplessly with heat, and seeming incapable of movement. In fact, young birds of all kinds not only hate the sun, but are greatly distressed when the temperature rises, so we may feel fairly sure that the Greater Spotted Woodpecker's preference for a northern aspect is not accidental, but is to guard against the sun shining down the entrance to its nest.

As a rule the nest of both the Spotted and the Green Woodpecker is excavated in the trunk of a tree, seldom in a branch, which latter is the favourite site of the Lesser Spotted. This pretty little woodpecker not only likes a branch,

but prefers a high one, for in all its affairs it keeps to the tree-tops. The selection of a nesting site takes place some time in March, after the business of love-making and courtship has been brought to a satisfactory conclusion. I once had the pleasure of watching a pair of Greater Spotted Woodpeckers at their love-making. It was one of those lovely warm days that come occasionally in the middle of March; the air was still and the atmosphere brilliantly clear, the distant purple hills seeming but across the valley. Sound too travelled farther than usual; the drumming of a Spotted Woodpecker and the loud laughing call of a Green one echoed to and fro across the dingles. That drumming drew me through the wood towards the spot from which it seemed to come, for I wanted to watch a woodpecker in the act of making it. It is by no means easy to locate a bird that is producing the call, for the sound is curiously deceptive, and often appears to come from the opposite direction to that in which it really originates. One generally hears it during the spring and summer months, and rarely at other times of year, so we may take it that it is the Spotted Woodpecker's love song, if one can call such a noise a "song"! It is made by the bird striking rapidly with its beak on a piece of dry wood, but the actual manner in which it is produced is difficult to observe, for even with strong glasses it is not easy to see just what the bird does. Mr. N. Tracy reported in *British Birds* (vol. xiii, p. 88) that he had

watched a Lesser Spotted Woodpecker drumming within four yards of him. He was up a tree inspecting a Green Woodpecker's nest, when a Lesser Spotted settled on a dead branch about four yards away and started drumming. He says, "It had its beak open all the time and seemed to vary the sound by slightly opening and closing its beak."

To return to the pair whose courtship I watched, the drumming ceased long before I got near the spot from which it had seemed to come, so I waited for it to start again, standing meantime by a sallow bush, watching the peacock, tortoiseshell, and other butterflies, that the warmth of this lovely spring day had brought out from hibernation, fluttering to and fro in the sunshine, now alighting to draw nectar from the golden "palm" blossom, and then chasing one another round the bush. It was a glorious sight, and in watching the butterflies, I was forgetting the object with which I came to the wood, when there was an excited outburst of Spotted Woodpecker calls, and two of the birds darted by overhead, the one following the other. In and out between the trees they went, gliding up and down in their switchback flight, next alighting on the trunk of a big tree, round which they dodged as if in play. There was a glimpse of black and white here, a flash of scarlet there, as they slipped in and out and round about the branches. Then away went one, and after it the other, giving vent as it took wing to another

chorus of excited cries. The one that was pursued did not seem to over-exert itself, soon alighting upon the trunk of a tall oak, round which the game of hide-and-seek was repeated, until once more the leader flew off. Its mate, or would-be mate, darted after it with the same outcry, to which the first bird replied, so that the wood echoed with their clamour. To and fro among the trees they went, working round a certain area, their course embracing a circle that was about three hundred yards in diameter. They seldom went outside this circle, but for more than half an hour continued to fly round it. How much longer the game would have gone on I cannot say, for an involuntary sneeze attracted their attention to me. "Chigh! chigh!" they cried, giving the danger call, as they spied me below, and vanished straightway.

What struck me particularly about this courtship was that neither bird drummed. Drumming may have its place in their courtship, but this love-making was far too energetically conducted to allow time for making music on a dead branch. Woodpeckers only drum during fine weather, and are seldom heard during a stormy period, but a calm warm day will make them as noisy as ever. During the spring of 1919 one pair in particular kept up an incessant drumming. Near the silver birch in which they had excavated their nesting hole was a half-dead spruce, the top of which had been blown off during a gale. They spent all their spare moments on this splintered trunk,

making the woods ring with the peculiar vibrating sound that they are such adepts at producing. Indeed, a wood that is tenanted by woodpeckers is always full of noise and life. The Green Woodpecker in particular is seldom silent, its impish laughter ringing far through the trees. It is this call which gives it its local name of the "Yaffle."

That nesting begins at the end of March or early in April has already been mentioned, and to this must be added that the Spotted Woodpeckers spare no labour, never, in my experience, returning to a previous season's abode, but always set to work and peck out a new nesting hole. However, this may be a matter of necessity, not inclination, for all the old woodpecker holes in these woods are seized early in the spring by nest-hunting starlings. These unprincipled birds will even go further, and annex a new nesting hole as soon as the hardworking woodpeckers have completed it. Even the big strong Green Woodpecker has all it can do to hold its own against the active starlings, and as for the Greater Spotted it is no match for them. The starlings are quicker witted, are quicker to act, and have evicted the rightful owner's eggs, and filled the hole with the mass of odds and ends that constitute their nest, before the poor woodpeckers realize what has happened. A bad case of usurpation came under my notice a year or two ago. A tapping noise led me to investigate a certain rather shaky looking silver birch. Sure enough

there was a woodpecker's hole on the north side, some ten feet from the ground, and at the foot of the tree a great litter of fresh white chips. By the way, the best method of finding woodpeckers' nests is not to look up aloft, but on the ground, the fallen chips being an infallible guide to the trees in which new holes have been bored. In this case there was quite a pile of chips, some of which were so fresh and dry that it was evident they had only just fallen. As the tapping still went on, I hid myself behind the next tree and waited. Some bits of wood fell out of the hole, the tapping went on, more bits fell, then there was silence, and, watching the hole, I saw a black and white head with beady dark eyes looking down. Satisfied all was well, the owner came out, flew to another tree, and gave me a good view of the woodpecker method of progression up the trunk. With those short stiff tail feathers pressed close to the bark, so that it sat on them as a person sits on a shooting stick, it proceeded upwards by a series of short jerky hops. I have also seen one of these birds come down backwards in the same manner, which sounds a much more difficult feat, though the woodpecker seemed to find it easy enough. In the latter case the tail was carried just clear of the tree. The more one watches woodpeckers the more one realizes what highly specialized birds they are, perfectly adapted for climbing trees, and boring holes in timber, to say nothing of excavating in rotten wood for the grubs and insects that form the chief part

of their food. Even their feet appear especially suited for climbing, as the toes are arranged two and two, not three before and one behind as in so many birds. The two and two arrangement must certainly give a better grip of the inequalities of the bark.

To go back to the woodpecker that I was watching, it went up the tree, then flew across to the next, where it uttered the "chigh!" call, to which its mate responded. Joining company, the two flew off and were quickly lost to sight.

After that I came daily to see how they were getting on with the nest. It progressed rapidly, the heap of chips increased steadily for a week, then the task was finished and work ceased. A shaft had been driven into the tree about three inches in a horizontal direction, and then some fourteen perpendicularly. The Green Woodpecker's nest goes a little deeper, but then being a bigger and more bulky bird it has to make a larger hole. For several days after the Spotted Woodpecker's nest was completed there appeared little doing; the owners could be heard in the adjoining trees, but they kept out of sight, and did not seem anxious to draw attention to their work, at any rate they did not let one catch them near the nest. However, their precautions were in vain; it had been observed. I had several times seen a pair of starlings near the birch tree, but never dreamt of what they were about to do—had I had any inkling I would have shot

them! Well, to cut the story short, on going one morning to the silver birch to make my usual inspection I was horrified to find four white eggs lying smashed on the ground at the foot of the tree. Those wretched starlings had taken the opportunity to tumble the eggs out and take possession of the hole. I wish I could add that some misfortune befell the starlings, but, as a matter of fact, they reared a large and happy family in the nest that they had obtained in such an unprincipled manner.

All our woodpeckers lay pure white eggs, with the faintest flush of pink, from the orange yolk, showing through the thin shell. White eggs is a characteristic that the woodpeckers share with most other birds that nest in holes and dark places. Colour in eggs is usually associated with exposed nesting sites, and apparently serves to camouflage the dainty morsels from the hungry gaze of the many creatures that are always ready to raid a nest. In a dark hole colour is useless, and it is a significant fact that the eggs of the majority of birds that nest in holes are white. Whether the ancestral woodpeckers laid coloured eggs, and the coloration has in the course of time been lost through the absence of selection since they took to nesting in the dark, or whether the whiteness is a survival from the dim and distant times when the ancestral lizard-bird laid a skinny reptilian egg, is too speculative a matter for me to venture an opinion upon. The woodpeckers have another characteristic of those species that

nest safely out of sight, and that is that the female is nearly as gaily clad as her mate. You hardly ever find brightly attired females nesting in exposed situations; when the hen is adorned with bright feathers you may be sure that she retires into some dark hole for incubation—take the Kingfisher for example. The Green Woodpecker is nearly as good an instance, the hen only differing from her mate in having a black stripe, instead of a black and crimson one, on the side of her face. In the case of the Greater Spotted Woodpecker the female is not quite so gay as the cock, for she lacks the scarlet patch at the nape of the neck, but in general colouring she is just as conspicuous. It might be suggested that the trifling extra adornment of the male is due to "sexual selection"—that is, to the choice by the hens, through countless generations, of the handsomest cocks; but, if this is so, why is it that the young birds in their first plumage should be adorned with scarlet caps, and that without reference to sex? Indeed, the young are far brighter and better looking than the adults, affording us an example of juvenile plumage which appears to be purely decorative. At any rate we cannot imagine such colouring helps the young birds to blend with their surroundings, or is in any way protective, so, "protective resemblance" being ruled out of court, we must try some other theory. If the young bird was an unpalatable morsel, or had any means of defence, we might consider that it showed warning coloration, but

this is certainly untenable. Possibly the scarlet cap may be useful as a "recognition mark," but the old birds surely do not need any scarlet head-dress to show them where their noisy, incessantly calling youngsters are? They call and call, until the parent woodpeckers must be worried out of their lives. I am writing, of course, of that short period when the young, having left the nesting hole, are still dependent on the old birds for food. This phase passes quickly; within a few days, or a week, the family party break up, scattering through the woods, and from that time forward the young birds are "on their own," and look after themselves. To go back for a moment to their behaviour while still in the nest, it is curious how noisy they become as the time approaches to leave. I do not know which makes the most noise, the Green or the Spotted Woodpecker, for both kinds raise a great clamour. It is not the usual outcry of young birds, but is a buzzing sound, and they make what an old countryman described as "quite a charm"! The best description I can give is to say that it sounds as if a swarm of bees and some hissing snakes were having an argument. One can hear the hubbub some way off; for instance, a nestful of Greater Spotted Woodpeckers high up in a tall tree attracted my attention when more than fifty yards away. I should never have known of these young woodpeckers had they kept quiet.

Once the young woodpeckers have left the

1 AND 2. YOUNG GREATER SPOTTED WOODPECKERS.

nest, never to return, their cries closely resemble those of the old birds. For some days before they launch out on their great voyage of exploration, they keep popping up to the mouth of the hole, partly to meet their parents coming home with the food supplies, and also to look out at the woodland pageant, at the sea of green leaves and swaying boughs, through which flit thrushes and blackbirds, jays and magpies, and the hundred and one creatures that make up the wild world of the trees. Yet even so early these youngsters know something of fear, of the dangers of life, and that man is the greatest danger of all, so that if they chance to catch sight of the observer the little red heads vanish from the entrance, the owners discreetly slipping backwards down the hole, to wait out of sight until the coast is clear. Even if they do not themselves see the danger they are quick to take a hint from the old birds: just one note of warning, and down the youngsters go to the bottom of the hole, only to pop up again like Jack-in-the-boxes when all is safe. Then they thrust out their heads once more, raising that eager clamour for food, and yet more food, that keeps the poor parents hard at work all day, searching the trees for insects, ripping open the rotten boughs, and probing all sorts of holes and corners to find grubs with which to try and satisfy the insatiable youngsters.

Once the young birds have reached the stage of looking out on the world, they are not long in reaching the last and final stage of their life

in the nest, and that is when they hesitate at the mouth of the hole and consider the question of leaving it for good. The biggest and strongest go first, but at the most only a few hours separate their different starts in life. They are launched into the world with a considerable store of inherited knowledge: they are experts at once in the art of climbing; need but little experience to fly as well as their parents; their instinct will tell them how to peck and bore to find the timber-dwelling insects, but all the same, like all living creatures (with the lowest exceptions), they will profit and learn by experience. And on their ability to do so will depend whether they live to mate, bore out a nesting hole, and rear in their turn a hungry, noisy family.

That the Greater Spotted Woodpecker has much increased of late years in certain districts I have already mentioned, and it is certainly to be hoped it will continue to do so, and that it will spread to those parts where it is yet uncommon, for it adds much to the interest and beauty of our woodlands, where it does much good and no harm. It destroys many harmful insects, but as far as injury to timber is concerned I have never seen a Greater Spotted Woodpecker's hole bored in a sound tree. I cannot say so much for the Green Woodpecker, as I did once find a pair nesting in what appeared to be a quite good tree, but it too prefers soft wood to bore in, and usually chooses a half-decayed poplar, or some such valueless tree in which to make

a nest. It is more erratic than the smaller 'pecker with regard to the height at which it excavates its hole. I have found an occupied nest in a pollard-willow but three feet from the ground, and another more than thirty feet up in a wych-elm.

A peculiarity of this bird which is worth noting is the great muscles of the tongue. These pass round the bottom of the skull, over the back of the head, and originate near the base of the bill! But the woodpeckers are bundles of peculiarities, all more or less adaptations connected with their life among the trees; feet for clinging to the bark, stiff tails on which to rest against it, strong beaks for probing and boring in the wood, especially such as is decaying and is the home of many insects, for it is almost entirely on insects that our three woodpeckers live, and by doing so help to keep our forests and woodlands free from many pests.

(*The Green Woodpecker of England and Wales is the same form that is found in Central Europe from France eastward, and has been dubbed* Picus viridis virescens, *Brehm, to distinguish it from the Scandinavian, Italian, and other races, all of which are ranked as sub-species of* P. viridis, *Linn.*

Of the Spotted Woodpeckers we have our British races; Dryobates major, *Linn., the Greater Spotted, being represented by* D. m. anglicus, *Hartert; the numbers of which are reinforced in the winter by visitors of the North European form,* D. m. major;

while the Lesser Spotted, D. minor, *Linn., is represented in England and Wales by the* D. m. comminutus *of Hartert. This race also occurs in Holland, different forms being found in other parts of Europe.*)

CHAPTER III

THE DORMOUSE

ONE of the shyest yet most attractive of our smaller animals is the dormouse, it is such a dainty yet reposeful looking little creature. There is something so round, soft, and comfortable about a well-fed dormouse that it is a joy to look upon. It is a pretty yellowish-buff in colour, with a long, flattened, and slightly bushy tail. Its underparts are white; it has big dark eyes, and fine whiskers, and it always keeps itself spotlessly clean. Despite its name of Dor-*mouse*, it is a totally distinct creature from the long-tailed field mice and the voles, also from the common house mouse, being, if one may so express it, merely a distant cousin, though classed, along with squirrels, rats, rabbits, etc., in the great order *Rodentia*.

The dormouse is essentially a climber; it spends the greater part of the year up aloft, where it weaves itself the snuggest and warmest of nests. Its favourite haunt is hazel coppices, but even where it is plentiful a good deal of knowledge and observation are required to find one of these

little animals. The best place to seek for it is in a wood where there are plenty of nut bushes, and the most likely time is early autumn, for you may then find it curled up in its summer nest. The "buck's dreys" (to borrow the term often used for the sleeping-place of the male squirrel) are about the size of a tennis ball, and all those I have examined have been chiefly composed of honeysuckle bark, that inside being finely shredded up so as to make a beautifully soft lining. Sometimes a leaf or two and a few pieces of grass are added to the outside, but the bark forms the greater part of the nest. Of course when honeysuckle bark cannot be had, dormice will use other materials. The living nests are usually placed in a brier or nut bush, preferably one that has honeysuckle twining about it, at from four to six feet from the ground, and occasionally higher, as I once found a nest quite twelve feet above the ground. When a nest is in use, and the owner at home, there is neither entrance nor exit to be seen, for the mouse closes its door behind it, drawing together the material until one cannot see where it goes in and out. If, when dormouse hunting, you find a nest with a hole in its side you may be quite sure there is no mouse at home, so it will be wise to refrain from poking your finger in, as the dormouse has a keen sense of smell and will be aware of the interference, probably deserting that nest in consequence. Dormice seem to abandon many nests, for you find a number of empty ones com-

pared with those that are occupied, indeed the number of unused nests that one finds is truly surprising and says much for the industry of the makers. Notwithstanding this a dormouse will sometimes make use of an old bird's nest. I once found one in a deserted blackbird's nest. It had altered and adjusted the lining so as to make a comfortable covering for itself, and noticing this heap of stuff in the nest I gave it a poke to see what it was. To my astonishment my finger sank into something soft and furry, but quite cold. It was a sleeping dormouse. The day was chilly, and the animal had sunk into a sleep nearly as sound as that state of deep unconsciousness in which it passes the winter. Its very name means the "sleeping mouse," and it is not dubbed the sleeper for nothing. The first frost or fall in the temperature sends the dormouse into such a deep sleep that it becomes not only quite inanimate, but so cold as to be apparently dead, and on taking the temperature of a hibernating mouse one finds it is but little above that of its surroundings, though when active its blood heat is about that of a normal human being.[1]

The dormouse in the blackbird's nest was not, however, quite unconscious, my poking roused it, and in a minute or two it began to stir; out it popped, ran a little way along a branch, and then turned round and looked at me with those dark eyes which are like shiny black beads. What

[1] Mr. H. E. Forrest was the first, I believe, to point this out.

a lovely mouse it was!—such a round, fat, prosperous one; its yellow coat was sleek and glossy, and it looked as if it had been living on the best of good fare. So no doubt it had, for it had been a mild open autumn and food had been plentiful. This animal gets exceedingly fat during the summer and autumn, so that by early winter it is simply a furry bundle of prosperity, and it is these internal stores on which it lives during the cold weather. While asleep its consumption is lowered, but still some fuel is needed to keep the slowed-down machinery from stopping altogether, and this energy is derived from the stores of fat. By spring these are used up, and how different the prosperous mouse looks now! It has faded to a mere ghost of its former self, and weighs but half what it did; however, a few weeks foraging about in the bushes restores it to something like its former plumpness.

At this point I can imagine some reader exclaiming, "But a dormouse hides away nuts to eat during the winter." There is, I know, a general belief that the dormouse is a provident little creature, and provides against times of scarcity, but I have never met with a particle of evidence in support of the idea, and am convinced it is wrong. To start with, why should the dormouse hibernate at all, if it has ample stores of nuts on which to depend? Secondly, I have never found a dormouse's hoard, nor have my captive dormice ever shown the least desire to hide their superfluous food. Lastly, it does not

1. DORMOUSE CLIMBING.

2. DORMOUSE ON THE GROUND.

seem to be usually appreciated to what an extent the dormouse lives upon insects, though the fact that it has such a long period of hibernation is most suggestive. Roughly speaking the dormouse sleeps from October to April, coming to life again as the buds break their sheaths, and numberless small caterpillars and other larvæ emerge from the egg. As an illustration of the fondness of the dormouse for insects, I must tell the tale of a captive one that I had. She was kept in a cage next to a box in which was being reared a hundred and fifty larvæ of the Privet Hawk moth, *Sphinx ligustri*. These caterpillars were growing rapidly and doing well, and were about an inch and a half in length. One night the dormouse found a weak corner in her cage, made good her escape, and turned her attention to the caterpillars next door. One side of the rearing box was covered with gauze, so she had no difficulty in eating a hole through it —in the morning there was not a single caterpillar left! Only a gorged dormouse was found curled up under the carpet in a corner of the room

I have also seen a dormouse eat the "leather-jacket" grubs of the "daddy-longlegs" with the greatest relish. Of course this little creature is very fond of nuts, and indeed one seldom finds it far from hazel bushes, it will also eat sweet chestnuts, acorns, the seeds of the dog-rose, but it certainly likes a mixed fare, in which it is not above including such items as the eggs of small birds. I have actually caught two dormice in

the act of raiding a long-tailed tit's nest. It was about three o'clock on a warm sunny afternoon at the end of May, and I was bird's-nesting in a bushy place near a wood, when I heard a commotion, a great twittering among the little birds in one of the bushes. It was a thick blackthorn in which the trouble appeared to be centred. Peeping into it, I saw a pair of long-tailed tits hopping this way and that, seeming in a great state of agitation and excitement, so that they took no notice of me. Peering and poking into the tangle of thorns, I next made out their nest, which was hidden in the heart of the bush. It was a typical example of the wonderful art of this species, an oval ball of moss beautifully decorated with lichen and spiders' silk, a neat round hole giving entrance to the feather-lined interior. From that hole there now peeped out a yellow head with a pair of beady black eyes, undoubtedly and unmistakably the head of a dormouse, which was evidently the cause of all the trouble. My peering and peeping shook the bush, whereupon a second mouse ran away up a branch, leaving behind it a fragile remnant of egg-shell caught on a thorn. Another shake and both culprits made off, and a thorough investigation revealed that they had eaten most of the eggs. Not only were there fragments outside, but there were the broken shells in the nest.

This is the only time I have seen two adult dormice together, and old mice they must have been, for it was too early in the year for young

ones. In captivity dormice are most amiable and good-natured, several of the same sex living quite happily together, but in a natural state they separate when full grown, each making a nest for itself. All the same I think the male dormouse keeps in touch with his mate, for one usually finds two or three ordinary sleeping nests, or "buck's dreys," near a big breeding nest (of the nursery more anon), one of which is invariably occupied by a big handsome mouse. For instance, in August, 1914, I found four dormice nests in a certain dingle. One was exceptionally high up, being at least twelve feet from the ground, in a nut bush twined with honeysuckle that overhung a path. It was an ordinary living nest made chiefly of honeysuckle bark; there was no entrance or exit visible—a sure sign of the dormouse being at home—and when I rapped the main stem of the bush a yellow-brown head was instantly thrust through the side of the nest. He looked at me for a moment and then made a leap to a neighbouring twig and ran off.

Some six or seven yards away was the second nest, this one being no more than four feet from the ground, also in a nut bush round which was twining honeysuckle. It too was made of the shredded bark of this climber, a few hazel leaves being added on the outside. The open entrance showed it was uninhabited, and during the six weeks or more that I kept an eye on it it remained unused. Apparently if anything causes a dormouse to give up a nest it never returns to it,

but weaves a new one. The third nest was close to this, was in a similar situation, built of similar materials, and appeared quite freshly made, but it too was abandoned. The fourth nest was of a different type, being a big breeding nest, some four or five inches in diameter. The other nests were no bigger than a cricket ball, being only big enough to contain the rolled-up owner. The manner in which these living nests are woven has been observed and graphically described by Mr. H. E. Forrest: "... one evening, about nine o'clock, I heard it moving, and watched to see what happened. The dormouse was inside the nest, except the head and fore-paws. These last were working with an energy surprising in a creature which is generally somewhat indolent, trying to scratch towards it one of the strands of hay. Finally it seized it by the middle, and drew back into the nest, dragging the hay strand with it. Next, rolling itself into a ball, it began to revolve inside the nest: over and over it went, smoothing out the hay, rounding the interior, and at the same time pushing it outwards."[1]

To return to the breeding nest which I was describing, it also was in a hazel bush which supported honeysuckle, and the bark of the climber composed the greater part of it, but there were more leaves in it than in the living nests. It was unusually high up, being about eight feet from the ground, the average nursery, like the "buck's dreys," being at a height of three or

[1] The *Shrewsbury Chronicle*, June 25, 1909.

four feet. The entrance was closed, but a gentle tap on the main stem of the bush brought the owner out, a rather dull-coloured dormouse, which it was obvious was a female that would soon have a family. She only ran a few inches up one of the honeysuckle stems, where she stayed, clasping the branch so that it was between her and the spectator. She seemed to think she was invisible; indeed, if I had not seen her take up her position, I should never have known she was there, for all one could see was a bit of yellowish fur and a dark eye peeping round the stem. Not wishing to upset or disturb the little lady, I went on, returning two days later to see how her affairs were progressing. This was on August 5th. She ran out immediately when the bush was slightly shaken, but seemed in no hurry to go far from the nest. It was obvious she now had a family to consider, and would not leave them, so I went away and left her in peace.

After that I visited her daily, generally giving the bush a slight shake, whereupon she would push her head through the side of the nest and look out to see what the disturbance was about, but after the first time showed little alarm, and did not run away. On August 28th, i.e. about four weeks after the birth of the family, a companion went with me to view the nest, and when asked to touch the bush, unfortunately gave it too vigorous a shake. It seemed as if a shower of dormice shot out of the nest! It was difficult to see exactly what happened, but it appeared

to me that the old one ran out first and hurried off up one of the branches, and then her family jumped in all directions. Three or four nearly full-grown mice fell to the ground and scurried away into the undergrowth. As they ran they appeared a trifle darker than the adult, but resembled the parent in all other respects.

Apropos of these young ones springing from the top of the bush, it is extraordinary from what a height a dormouse can fall and yet meet with no injury. A pet one sprang from a curtain pole, falling on the floor with a thump that terrified me, but it was not in the least hurt. Of course a dormouse has a strong grip, its little pink handlike paws holding the twigs extraordinarily firmly, so that such feats are hardly ever involuntary ones.

To go back to the family described above, when they scattered into the fallen leaves and fern, I thought I had seen the last of them, but went to the nest again the following day to make sure they had not returned. To my surprise the entrance was closed, and the usual gentle tap brought the old dormouse to view. She at any rate had returned home, but whether she had collected her family I never knew, for I was unable to visit the nest for some time after this, and when I did do so it was, it is true, still occupied, but now by a usurper. The keen long head, the large black eyes, and big ears of a long-tailed mouse appeared in the entrance. The stranger jumped out and ran off, and I was

left without any inkling of the fate of the owners of the nest.

In books of reference it is commonly stated that the dormouse breeds twice in the season, the first litter being born in April or May and the second in the autumn. This may be correct as regards the Continent and the southern counties of England, but it certainly does not apply to the rest of the country. In the Midlands it breeds in the autumn, from August to October. I have found many nests containing young during August and September, but only one earlier. I found this exceptionally early family on June 24th, the young ones appearing but a few hours old. Late litters are less unusual, and I have met with a breeding nest containing young ones, that did not appear many days old, during the first week in November. Disaster probably overtook these youngsters, for shortly afterwards the weather became very cold, and a fall in the temperature always sends dormice into hibernation, so their mother would have to retire into slumber, while they probably died.

The length of time that dormice hibernate supports my belief that spring breeding in these islands is most exceptional, for they do not awake to full activity before the beginning or even middle of April, and as each one has slept away the winter in its solitary hiding place, they have to find each other, and conduct their courtship, before mating takes place, and therefore it is impossible for the earliest litters to arrive before the end of

June, the majority being much later. The family usually numbers four, seldom more, but sometimes less.

Young dormice when first born are not quite so naked as most little rodents, for they have some few very short hairs about their skinny little bodies. They grow and develop at a great pace, and are soon well clad in yellowish-brown fur, which is similar to that of the old ones, though duller in hue. During the autumn this darker tint serves to distinguish them from the adults, but after the first moult they cannot be told apart.

I once attempted to rear four small dormice. A workman who was laying down a hedge found the nest, having knocked it out of the fence while at his work. He brought the poor little things to me, but they were so small and helpless that I despaired of saving them. Their eyes were beginning to open, and they could just sit up, but were yet feeble and helpless. Their heads were their biggest parts, and they were as top-heavy looking as such wee babies usually are. Their feet were disproportionately large, especially the hind ones, but they would cling like limpets with them. They kept up a continuous shrill squeaking, very like that made by bats, and pitched quite as high, for two persons told me they could not hear it at all. With the help of a camel-hair paint brush I got them to take some warm milk, and in a day or two they were able to nibble a little bread soaked in milk, but, as

1. ADULT DORMOUSE CLINGING TO A TWIG.

Note the way its feet grip the branch and its slightly prehensile tail.

2. FOUR YOUNG DORMICE,

which, though hardly able to see, were already capable of holding to the branch and maintaining their balance. Note the size of their feet.

I had feared from the first, my efforts to save their lives were in vain, I could not pull them through, and their skins are now with other specimens in my collection. These poor little things made valiant efforts to sit up and wash their faces, by passing their paws over their heads ; and even to draw their nest around them. Nest-making and the toilet appear to be the two great interests of a dormouse, and it will dress its fur most elaborately. I have watched one part the fur down its back with its paws, and carefully lick the length of the parting, and thus work right across its back, licking and parting at lightning speed, and twisting its head and shoulders round, until it looked as if it would twist its head off. It then picked up its feathery tail, and as carefully licked that appendage. Its head and ears had been thoroughly attended to earlier in the proceedings, when it washed its face after the manner of a cat, licking a paw, passing it behind one ear, and drawing it forward over its nose, giving it another lick, and repeating the process.

In its manner of feeding the dormouse is as dainty as it is in its person: it takes in its mouth that upon which it is going to feed, sits up on its hind-legs, transfers the nut or whatever it may be to its fore-paws, and then gnaws at the treasure-trove in a steady and businesslike manner. It is astonishing how much one of these mice can dispose of at a sitting, but it must be remembered that for a considerable period they do not eat at all.

I never see a dormouse eating without thinking of my first pet dormouse, brought me by a farm labourer who had caught it. Childlike, I was hugely delighted with it, managed to get a cage, of a sort, and took the mouse in it to an empty room that I called my "museum." In this room was a collection of odds and ends, some fossils and other stones that I had picked up, some birds' eggs in a wooden case, etc. Among this rubbish the dormouse was deposited in its cage. So far as I can remember it was a makeshift arrangement, devised by the man who caught the mouse, with the help of a couple of cigar boxes. At any rate the dormouse showed its good sense by immediately getting out. Hanging against the wall was a nest of the long-tailed tit (given me by the same man that had caught the dormouse) and the mouse evidently spied the one comfortable sleeping place in the room, for there it was found asleep next morning. In the absence of suitable accommodation it was allowed to stay where it was, and to have the run of the room. It got very tame; every evening it would come out, climb up on to a picture frame, and there take nuts from one's fingers, but alas! one day someone left the window open, and the dormouse vanished, never to be seen again. Pet dormice are clever at escaping, for, despite their sleepy and indolent looks, there is no small mammal that is quicker to take advantage of any chance of getting away. One of mine, which got out and disappeared for a week, reappeared in a rather

startling manner. As my mother and I were coming out of church on the Sunday, I caught sight of something yellow in the long fur of the wrap she wore round her neck. It was the work of a moment to ask her to stop, and next second I had the missing dormouse in my hand! It must have got into her bedroom, then into the drawer where her furs were kept, and, finding a soft comfortable spot, had gone to sleep among them. It had not been shaken out during the mile and a half walk to church, nor during the service, but I often wonder what the choir boys, who were just in front of us, would have done if it had waked up and taken a flying leap among them—could any boy have resisted making a grab at it?

The dormouse, though so popular as a pet, rarely breeds in captivity. I have never met with any great success in this direction, owing possibly to too much attention at the critical time. Two litters were deserted by the mothers, and in a third case the parent murdered her helpless mites. By the way, a word of advice to any one who has a pet dormouse, and that is not to bring it into a heated room during the winter, but to let it remain in a fairly cool place where the temperature does not alter much. In a warm place a dormouse is unable to enjoy that sound winter sleep which is necessary to its well-being. The warmth rouses it to an unnatural activity, so that it is expending energy when it should be hoarding it. At any time a rise in the

temperature will rouse one of these creatures, just as a fall will send it back to unconsciousness. This activity is bad enough when there is plenty of food at hand, but in a wild state a warm spell has often disastrous effects on the dormouse population. I have noticed repeatedly that a mild winter is invariably followed by a scarcity of these animals, and vice versa with a hard one. The very severe winter of 1916–17, which was so hard that many species of birds were almost wiped out, had not only no ill-effects on the dormouse population, but the reverse. I never saw so many dormice, or found so many of their nests, as I did during the following summer. That year the dormice must have enjoyed an uninterrupted slumber from the end of September to late in April. Now the season 1919–20 was a very mild one, it being a most open winter, but during the summer of 1920 I never saw a sign or trace of a dormouse in any one of the usual favourite spots. The dormice seemed to have vanished completely. I believe this fluctuation in numbers is entirely a matter of weather; a hard winter will be followed by a good dormouse summer, and a mild one by the disappearance of the mice. When one remembers that this mouse is practically entirely dependent on its internal stores of fat, and that these stores are consumed much more rapidly during its periods of activity, one can readily comprehend that a mild winter, with continuous excursions on the part of the dormice, is likely to be disastrous to them.

No description has yet been given of the quarters in which this species hibernates. At the first chill touch of frost it deserts its aerial nest and descends to some warm bank, retreating into a hole, under a log, or into a crevice of some old tree stump, where it makes itself a warm and comfortable nest of leaves and grass. Sometimes it will descend quite deep down a convenient mouse hole or mole run, and I once saw a dormouse dug up from a depth of between two and a half and three feet. We were rabbiting in a wood, and one of the ferrets having laid up with a rabbit had to be dug out. The rabbit hole went quite deep into the ground, and with one of the spadefuls of earth from the bottom of the trench came up a ball of grass. As the soil was thrown out it rolled away, and I picked it up to see what it was. It was about the size of a tennis ball, without visible opening, and beautifully woven. On parting the materials, there was disclosed an unconscious dormouse. I have seen it stated, on good authority, that if a sleeping dormouse is roused suddenly by being put near a fire, or in any other way warmed up too quickly, its heart begins to beat at such a rate it dies in a few minutes, but I cannot vouch for it, as I never had sufficient scientific enthusiasm to try such an experiment.

Apart from unsuitably mild seasons, animal foes help to keep the dormice from increasing unduly. The weasel is not above pursuing it through the bushes, the tawny owl takes its toll,

and the kestrel has no objection to including a dormouse in its fare.

The long-tailed field mouse is, I suspect, guilty of bullying the more easygoing dormouse, for I have so often found the field mice occupying the nests of the latter, that I am sure they turn out the rightful owners. On one occasion I pushed my finger into a nest, only to receive a sharp prick on the end. I hurriedly withdrew it, thinking I had run it against a thorn, when out jumped a fine long-tailed mouse.[1] It was his teeth, not a thorn, that my finger had met! Another time, when out with a shooting party, I saw a long-tail, startled by the thump of a beater's stick on the bush, jump headlong from a dormouse's nest, miss its footing on a brier stem, slip, and get caught by a thorn through the skin of its tail. For several moments it hung helplessly, and I quite expected the tail to skin, as so easily happens with these mice, but after a few kicks it swung free and ran off. I could give scores of similar instances of long-tailed field mice taking possession of such nests, and will only say it is the rule and not the exception for them to do so.

Apart from natural foes, and other causes, the life of individual dormice is probably short. Those I have kept, and which I have tried to supply with everything they could possibly want,

[1] The common Long-Tail, *Apodemus sylvaticus*, not the Yellow-neck, *A. flavicollis*; though the latter is plentiful in the district in question.

1. DORMOUSE AWAKE.

2. DORMOUSE ASLEEP.

have never got through a second winter in captivity. They were quite healthy until the late autumn, when they died suddenly without any symptoms of illness, and Mr. H. E. Forrest, the well-known naturalist, tells me that he has tried repeatedly with exactly the same results.

Another interesting point concerning this mouse is why it should be plentiful in some spots, and not in others that appear equally suitable? It is far from evenly distributed; it will be comparatively numerous in one place (it is never really plentiful) and seldom met with in the next coppice. In my experience its favourite haunts are deep, warm, bush-clad dingles, where it is sheltered from cold winds. Those who only know the dormouse as a charming caged pet, of a somewhat somnolent and easygoing disposition, can have little idea of its beauty in its native dingles, where the dull, lethargic mouse is transformed into an active sprite, which slips so swiftly from twig to twig that it looks like a yellow leaf drifting before an autumn breeze. Some writers consider the beautiful yellow-brown coat conspicuous, and say it in no way conceals its wearer, but I can only reply that I have always found a dormouse at home in a nut bush extremely difficult to see unless it gives itself away by moving. The tint seems to harmonize very well with the surroundings. In any case the dormouse is one of the most charming and dainty of our woodland creatures.

(*The dormouse,* Muscardinus avellanarius, *Linn., is found from England throughout Central Europe eastward, and is singularly exempt from variation, no sub-specific forms having been recognized, and the only other European species of* Muscardinus *is the Italian* M. pulcher *of Barrett-Hamilton, which is a brighter-coloured mouse with a white eye stripe.*)

CHAPTER IV

THE BULLFINCH

THE bullfinch is a bird that loves trees and bushes, and which one hardly ever sees in the open country; yet it is not the great woods, where tall oaks and ashes tower skywards with trunks like columns in a cathedral, that it chooses for its haunts, but rather the fringe of the woods, where there are thickets of blackthorns and briers. From such strongholds it flits out along the hedgerows to gardens and orchards, where it is a gay if not always welcome visitor. This taste for bushy places, rather than the recesses of the woods, it shares with many other birds. When strolling through a coppice you will usually find that there is much more life on the outskirts than there is inside. Among the trees things are very quiet, but the surrounding thickets abound with birds. Blackbirds, thrushes, willow wrens, and chiffchaffs, to say nothing of greenfinches and chaffinches, are there in numbers, and the bushes seem alive with them.

Yet the bullfinch, even if it does not care for the heart of the big woods, loves the trees, shade,

and coolness. When choosing a nesting place it nearly always selects some evergreen shrub, a small fir tree meeting its requirements to a nicety. For this reason a young spruce plantation draws to it all the bullfinches in the neighbourhood. There is such a plantation near my home, where, in the spring of 1918, I spent much time watching the private affairs of these fascinating little birds. There were two pairs in particular with which I became very intimate. They were nesting within two yards of one another. Both pairs had shown the usual liking of their species for deep shade, and had placed their nests against the main stems of particularly thick young spruces, at about four feet from the ground. This is the average height for a bullfinch's nest, though I have found them a trifle farther from the ground but never more than six feet. Now the greenfinch, which nests in similar situations, prefers to get much higher, and makes its home at anything from six to fourteen feet. What makes the difference and influences their choice I wonder?

The two bullfinch nests were quite typical ones, being built of small dry spruce twigs and lined with fine roots and hair. They looked fragile structures, and were much stronger than they appeared, for each subsequently held, without disaster, five well-fed nestlings. I found the first nest on May 3rd, when it was apparently ready for eggs; in fact, the first egg must have been laid shortly after, for on the 7th it held three, typical bullfinch eggs, such exquisite dainty things

with their purple-brown blotches on a very pale blue ground. Words entirely fail to describe the beauty of these eggs, the shell being so thin and fragile that the yolk within modifies their hue. Blown specimens in a cabinet have little likeness to the untouched original egg lying in its cradle of twigs and rootlets, with the play of light and shadow passing over it and making it seem a fairy casket for the future life that it contains. But it was probably for utility, not beauty, that the colouring and markings were evolved.

The eggs of the bullfinch vary somewhat, and those of the second pair, whose nest was not found until May 19th, when the bird had begun to sit, were not so beautiful as those of the first pair. They were not so pure a blue, the purple markings were fainter, and they might almost have been mistaken for the eggs of a linnet; still, they were lovely objects.

Up to this time I had seen hardly anything of the parent birds, an occasional glimpse of grey and white flitting through the dark green of the spruce branches being all they had vouchsafed me. But that they were at hand was apparent from their melancholy piping, which could be heard first on one side and then on the other; however, I had already taken steps to get better acquainted with them. Some days before a small hiding tent had been set up a little distance off, and now the birds had got thoroughly used to it I brought it close to nest No. 1. Ensconced therein, I could watch unseen through the peep-holes

and tears in the covering all that went on around, the bullfinch's nest being so close, that later on, when the owner was brooding, I often longed to put my hand through a hole and stroke her! The real object of erecting the tent had been photography, for I wanted to take some photographs of the bullfinches, but the situation was a particularly difficult one, the nest being tucked away in the heart of this thick young spruce, in addition to which the spot was so shaded and overshadowed by dark Austrian pines that only the slowest of exposures was possible. To make matters worse, the light which did reach the nest had filtered through the heavy green branches, so that it was even poorer actinically (that is to say, in the kind of rays that effect the photographic plate) than it appeared to the eye. What was more, I did not dare to pull back many of the branches for fear of upsetting the bullfinches. All I ventured to do was to trim away a few twigs that came between the camera and the nest.

Tucked away in the little tent, with my camera focused on the nest, I waited for the birds to return. It was very hot among the young fir trees, and still warmer inside the "hide"; not a breath of air crept down the scented alleys between the trees; dancing flies hummed drowsily; thrushes, blackbirds, and warblers sung on all sides, while pigeons cooed lazily in the distance. Through one of my peep-holes I saw a cock pheasant pace slowly across a ride, the sunlight gleaming

on his brilliant plumage, then a thrush flew up and, perching on the spurlike leading shoot of one of the spruces, began to sing, pouring forth the joy of living in his liquid notes; a blackcap flitted about lower down, peeping here and there among the brambles for flies and other hidden insects, and a consequential robin, with the curiosity of its kind, came and examined the tent. Suddenly my attention was riveted by the mournful piping call-note peculiar to the bullfinch. Then there was a glimpse of black, white, and grey slipping through the boughs, the piping call gave place to twittering (the call-note was never used at the nest), and I saw the hen coming back escorted by her mate. Such a dainty Quakerish little person she looked in her pearl-grey, white and black plumage. She hopped from twig to twig, then stopped and looked about her; alterations had been made, the absence of those few twigs that I had cut out seemed to trouble her, and she hesitated what to do. She hopped away, she hopped back, and then summoned up her courage and hopped on to the edge of the nest. All the time her handsome mate was standing behind her, resplendent with his salmon-pink breast. He twittered to her as if begging her to settle down on the eggs without delay—by "twittering" I mean a subdued contented note, faintly uttered so that one could hardly hear it, and quite different from the plaintive piping with which they called to one another. But the female bullfinch was undecided what to do; she hopped away, then back on to the edge

of the nest, where she stood for a moment looking down on her five eggs, those dainty beautiful eggs of which she was a worthy owner, for she was as charming in her quiet demure way as her more gaily clad mate. He, with his rose-tinted waistcoat, looked like a gay Cavalier, while she might have been some meek Puritan dame. Still he twittered to her, seeming to beseech her not to let the eggs get cold, and at last she did settle down, slipping lightly on to them and fluffing out her feathers comfortably over her treasures.

At first the hen bullfinch seemed a trifle uneasy; her penetrating black eyes glanced suspiciously at the tent, then she turned her head in the direction in which the cock had disappeared, and I feared she would follow him, but the wild life of the little wood went on unheeding all around, the thrushes, blackcaps, and garden warblers continued to pour forth their songs, and she gradually lost the look of strain and worry, and it seemed as if the drowsy buzzing and humming of the hover flies was lulling her to sleep. At last I thought I might try and take a photograph, so squeezed the bulb of my so-called silent shutter, when even its pronounced "click" failed to disturb her; however, I waited some time before trying to change the plate, but while doing so accidentally shook the camera and with it the front of the tent—Madam was gone in an instant!

I subsequently found that both the bullfinches were practically indifferent to noise; I could

speak, clap my hands, let off the focal-plane shutter—a terribly noisy thing—and yet not disturb their equanimity. They might look up, or remain still for a moment after hearing a strange sound, but it did not frighten them or drive them away. It was only owing to this characteristic that I was able to take any photographs at all, for the nest was so shaded that instantaneous exposures were quite out of the question. However, by making a noise I could sometimes induce the bullfinches to remain quiet for a second or two, and was thus able to give short time exposures. Even then a large proportion of the plates were very under-exposed, and still more were spoilt by the birds moving. As time went on it was practically impossible to get a good photograph, for they had become so accustomed to all the noises that I could make, that by the time the young were half grown they were utterly indifferent. They would go on about their business while I clapped my hands and shouted; nothing would startle them into attention—nothing, that is, in the way of sounds; of movement they remained as nervous as ever. If the tent cover shook, or if I showed as much as a finger at one of the openings, they dived in panic into the bushes. This indifference to noise, and terror of anything stirring, is probably connected with the dangers they have to fear. In wild life death is always silent: the hawk swoops swiftly and unsuspectedly upon its prey, the owl drops noiselessly out of the twilight, and the cat creeps up on padded paw. That

which makes a row need never be feared, but the stirring of a leaf, or the trembling of a grass blade may mean danger at hand, so most small birds trust their eyes in preference to their ears, and fly off at any unexpected movement among their surroundings.

As the bullfinch had been very startled by the shaking of the front of the "hide," and as I also had an idea that she knew I was hidden inside it, I crept out and went away for a while, to give her time to recover her confidence. It was 12.30 when I came back, and hotter than ever, the flies droning more drowsily than before, pigeons cooing as if they had hardly the energy to call, and only one or two warblers singing dreamily in the bushes. But the hen bullfinch was quite wide awake, and slipped off the nest, and away into the fir trees, before I got near the tent. I heard her calling to her mate, and feel sure they both watched me get into the "hide." They must have known I had not gone away, yet I had hardly tucked myself in, and set the shutter of the camera, than I heard them calling close at hand, and then the twittering that denoted they were coming back to the nest. Almost at the same moment the hen came fluttering by, went straight to the nest, and settled down on the eggs. Now how is one to understand that? Was it bravery? Or was it want of brains? Because they could not see me, did they think I must have been swallowed up by the ground? We may imagine that it was a case of "out of sight, out of mind,"

but that gives us little help in understanding the mind of such small feathered creatures. All one can say for certain is that birds vary tremendously in that power of "putting two and two together" which in humans we call intelligence. A crow or raven, for instance, would never have been deceived in the simple manner that these poor little bullfinches were; with either of them it would have been a battle of wits, the bird being probably the victor in the end, but the bullfinches, having lost sight of me, were quite happy, for they were now used to the tent and paid no attention to it whatever. The hen fluffed her feathers out and settled down on the eggs, while her mate remained standing beside her for a few moments, twittering all the while; at least I supposed it was he who twittered, for the sound ceased when he flew away, but there was no movement of throat or beak to show which was doing the talking. I watched both birds carefully and never saw a muscle move, but, as mentioned before, when the cock left all sound ceased. I must add here that he was the most devoted of mates, and that, though I saw the hen leave and return to the nest many times, he never failed to escort her back. He always saw her home, and would stand by until she was comfortably settled on the eggs. The quickness with which he appeared when anything disturbed her, made me think that he never went far from the nest, that he was always within hearing, and more or less on guard. I did not see him bring her food

previous to the young being hatched, but from his subsequent behaviour I think it is probable he did feed her on the nest.

It was after the eggs had hatched that the bullfinches became most interesting. The great event took place on May 23rd, and the next day I took my camera to the tent to try for some more photographs. The little ones were very small and helpless, skinny mites decorated with tufts of black down, like the conventional adornments of a circus clown. Are such tufts of any use, or are they just an accident of evolution? Watching the tiny mites as they lay in their nest gave me no answer to my query, unless it was the thought that maybe these scanty tufts are a legacy from the primitive bird in which the nest-building impulse was not yet developed, and whose young therefore would almost certainly be well clad, as are the chicks of the waders, game-birds, etc., at the present day.

No sooner had I got everything arranged inside the "hide" than the hen bullfinch was back, of course escorted as usual by her attentive mate, but having seen her fluff her feathers out, and settle down to brood the family, he flitted off. The reason of his hurry was apparent, when he returned exactly fifteen minutes later, with his throat distended with food, *not* for the family, but for his wife. She opened her beak and he regurgitated his supply down her throat—that is to say, he brought up from his crop the semi-digested food with which it was filled, and gave

it all to her. Evidently the young did not want much food yet, for she swallowed it all. So far as I could see and judge, all the food given by the cock to the hen, and later that brought by the pair for their young, consisted of buds and other greenstuff, but as it was in a half-digested state, and it was by no means easy to see what passed from one to the other, I could not be absolutely sure it was *only* buds.

Another fifteen minutes passed, when the male reappeared, again fed his brooding mate, and hurried off once more. This time he was away for half an hour, it being 2.30 when the devoted little fellow returned. This time, the hen, having taken a little food from him, rose, stepped back to the edge of the nest, and left the young ones exposed to view. The cock, bending over them carefully, pushed a little food down the throat of each in turn, and then turned his attention to matters sanitary, taking the excrement from the tiny mites, swallowing some of it, and passing some to the hen, which she likewise swallowed! This, I may add, is the course commonly taken by nest-building birds while their nestlings are young, at first they swallow the excrement, but as the young get older the parents carry it off and drop it at a distance.

Everything having been seen to, the cock disappeared once more, and again was absent for quite half an hour. At last the hen got tired of waiting for him to come back, she got very restless, she kept looking this way and that, and finally

slipped off the nest and flew away through the bushes. Hardly had she gone than the male bullfinch arrived with the food. His "taken aback" look when he found she had vanished was quite laughable; however, he fed and attended to the young before flitting away in the direction in which she had disappeared. Evidently when the young are first hatched the cock does all the foraging, supplying both his mate and the family with food at intervals varying from fifteen minutes up to half an hour. I noted the next day that though the female left the nest twice she did not bring back food, while the male arrived each time with his crop bulging with what he had gathered. As a rule he divided his supplies with the hen, the latter having backed off the nest when she heard him coming. When she had received her share, they would stand on either side of the frail structure, and feed and attend to the nestlings. They would gaze at the mites with what looked like intense pride and affection, and when the hen settled down to brood again she seemed the personification of motherly love. All the time I watched her I never saw her doze or even close her eyes, though at times the heat was oppressive enough to send any creature to sleep. Her keen black eyes never even winked, and she always seemed on the alert. The flat, black, somewhat hawklike heads of the bullfinches, with their strong thick bills, always reminded me, for some unknown reason, of the wall paintings of hawk-headed gods on the ancient Egyptian monuments!

1. WAITING.

The hen Bullfinch has settled down to wait patiently until her mate's return. A small portion of the last meal will be seen sticking to the side of her beak.

2. THE RETURN.

The male Bullfinch at last arrives, his throat and crop being distended with food.

The first time I saw the female bullfinch bring food for the family was on May 29th, when I began my watch at 11.10. My notes, made while I waited, run as follows: "Very hot, the air full of drowsily humming flies, a few birds singing, a hen cuckoo bubbling and her mate cuckooing. An owl rouses himself to hoot vigorously, at which a blackbird or two break into hysterical shrieks. The young bullfinches seem much distressed by the heat, and lie gasping all the time with their heads over the edge of the nest. They have grown enormously, almost doubling in size during the last two days. The female returns (11.18), feeds and covers them. This is the first time she has brought back food. She too seems to feel the heat, notwithstanding the nest is well shaded, and sits gasping with her beak open. The male, who has seen her home, has gone off with a beakful of excrement. At 11.45 the cock appears with food. Both attend to the young, and the two leave together. At 12.23 they both return, the male with food, the female without. The cock this time seems to have difficulty in bringing up his supplies. After several attempts to regurgitate, and looking meanwhile most bilious, he eventually flies away. The hen seems restless and uneasy; after covering the young for a moment or two, she rises, steps out of the nest, almost upsetting one of the little ones as she does so, and flies after him.

"At 12.55 both bullfinches return, each bringing food, with which they feed the young. Then the

hen opens her beak, exactly as if appealing to the cock to give her more food, and he thrusts his bill down her throat. It seems to me that he is really helping himself to the food she has left; at any rate he does this several times, each time turning to the nestlings and giving them something. He then leaves, and she broods the little things for a few moments. She next pulls a fibre out of the nest, which appears to have got out of place, and flies away with it. At 1.23 the female appears alone, feeds the family, and broods them until her mate returns at 1.38, when he feeds and attends to them, and the two depart together. At 2.15 they are back again, but do not stop after feeding the young and cleaning up. Leave the tent at 2.20."

From this time forward the pair invariably foraged together, returning together with their supplies, and behaving, in fact, like a most devoted couple. Except when the hen stayed to brood the young for a while, the cock never moved without her. They each had their own path by which they approached the nest. He invariably flew on to the roof of my tent and thence to a particular twig in front of the nest, but she came from the back, slipping quietly through the branches, and appearing suddenly on the farther side of the nest. Sometimes the pair notified their approach with their mournful call-notes, and at other times came silently, but however quietly they came it was seldom that they took the nestlings by surprise. The young ones nearly always knew when they

were near, and often the first intimation that I had of the return of the old birds, was the sight of five heads shooting up into the air. The young ones were extremely sensitive to the slightest vibration of the branches, and it was no doubt the slight shaking that told them when their parents were at hand. Only once did I see the cock bullfinch take food *from* the hen, which episode I have described above, but he several times gave it to her, though not as often as she wanted. She would stand with open beak mutely appealing to him, but more often than not he took no notice and went on with the business in hand, paying no attention to her despite the open beak.

After the first six days the parents shared their duties equally, both as regards feeding and carrying of excreta. Their visits, which to begin with had been at twenty-minute intervals, got farther and farther apart, until, by the time the young were ready to fly, food was only brought once in three-quarters of an hour or even longer. Once or twice the old birds were away for more than an hour, with the result that the nest had become quite dirty during their absence, but they cleaned it up carefully on their return.

It was surprising how fast the nestlings grew; when only seven days old I noted: "The young grow like mushrooms; they seem to have doubled in size in the night, and are much stronger, for they can now hold their heads right up in the air. When they do so, with their great blind eyes and

long trembling necks, they are grotesquely reptilian in appearance, their clown-like tufts of down adding to their weird appearance." This appearance altered as rapidly as their size increased, and they soon had stumpy feathers showing, the first appearing on the eighth day, when I wrote that "though comparatively helpless yet, their eye-slits only beginning to open, they have some idea of trying to preen themselves. One made a valiant effort on the young stumpy feathers that are appearing on its shoulder, but failing in the attempt, yawned widely, and settled down to doze until the old birds came home."

They sometimes appeared quite bored with the long waits and would yawn widely. Though the bills of the old birds were so intensely black, those of the young ones were creamy white, only beginning to deepen in hue during their last day or two in the nest, so that even when they left it their beaks were but slate-coloured. Latterly the five made more than a nestful, they filled the frail structure to overflowing, bulging over its sides until what was originally a cup became flattened out into a platform of twigs. How they managed to remain safely in, or rather on it, puzzled me; indeed, one youngster did have a narrow escape, for the hen, being startled, left in a hurry, and nearly knocked it out. For a second the nestling balanced precariously on the edge, but a wriggle or two tumbled it back. Once the eyes of the young bullfinches were open, they began to see and to understand what was going on around them. They began to

recognize me as strange and dangerous, crouching low in the nest as I approached them and remaining motionless until I was hidden in the tent. Once I was out of sight, they sat up, raised their heads, stared about, fidgeted, preened their fast-growing feathers, dozed, woke up again, yawned and stretched, in short passed the time as best they could until the return of their dilatory parents. When they heard, or rather *felt*, them coming, what a change came over the family! All five heads shot up into the air, pointing in the same direction, then as the hen appeared on one side of the nest, and the cock on the other, they quivered all over in eager anticipation. The old birds would regard them for a moment, when you could see how swollen and distended their throats were with supplies; then the cock fed one, and afterwards a second, pushing his beak down their gaping throats and pumping up the food, while his mate did the same for the two on her side of the nest. The food having been delivered, the pair usually stood and looked at their family for a few moments, watching to see if matters sanitary wanted attention, and generally each carried some excrement away. It is noteworthy that the droppings of nestlings are usually coated with a non-adhesive slimy covering, so that they do not stick to, or dirty anything, with which they may be brought in contact, hence the old birds are able to keep the nest clean without soiling themselves.

I have already mentioned how distressed the

young were by heat. The weather was very warm from the time they hatched until they left the nest, and the sight of them lying gasping in the strangest attitudes about the nest did much to convince me that the choice of a nesting site (nearly always in the heart of a thick, deeply shaded bush, for preference an evergreen) is due to the bullfinch seeking shade and coolness such as the heart of a young fir tree affords.

At fifteen days old the young bullfinches were fully fledged, and the frail nest threatened to give way with their weight, but the next morning, the sixteenth day, saw it relieved of its burden. They were sitting on the edge of it, looking at the, to them, wide world of fir trees and bramble bushes, when I came into view between the spruces. The sight decided them: with one accord they tumbled into the trees. I had a glimpse of five pale greyish-white editions of their parents flitting a little uncertainly through the dark boughs, also a momentary vision of the gay cock and his demure mate leading them away. For a little longer I heard the melancholy call-note of the old birds, and then the bullfinch family, fairly launched into the wide world, had vanished for good.

This family flew on the sixteenth day after hatching, the neighbouring young ones on the fourteenth or fifteenth; in both cases incubation took fourteen days; and in the case of the nest that I watched carefully it was thirty-two days from the time the first egg was laid until the young fled, which was on June 8th.

(Pyrrhula pyrrhula pileata, *MacGillivary, is the title of our British bullfinch, which differs slightly from the Continental bird* P. p. europœa, *Vieillot, in that the female is greyer.* P. p. pyrrhula, *Linn., the northern bullfinch, is a North European form that visits us sometimes when on migration, and which may be known by its decidedly larger size.*)

CHAPTER V

THE FOX

ALMOST beautiful animal is the British fox, being perhaps as lovely as any creature we have. I shall never forget the first fox I ever saw, though but a small child at the time. My father had taken me for a Sunday morning walk through the woods, following a path that led by a swift and noisy brook that tumbled over a rocky bed. We were standing at the stream side, watching a dipper hopping from stone to stone, when something stirred in the bracken on the farther side of the water. The autumn frosts had turned the fern yellow and brown, but the golden gleam that caught the eye was redder than even the sunlit bracken. There, not twenty yards away, stood a fox gazing at us. His coat shone golden-red in the sunlight, his black-tipped ears were pricked, his delicately pointed muzzle was turned in our direction, and so he stood, with one dainty black paw held up, looking at us; next moment he was gone, disappearing noiselessly into the fern ; but the memory remained, a memory of a vision of wild beauty.

For perfect beauty, combined with intelligence, the fox, in my opinion, is without a rival in all the wide world of wild animals. Some people say that its abilities are much overrated, but —though not crediting it with superhuman understanding—to this I cannot agree. A fox nearly always keeps its wits about it, and seldom loses its head. Watch as I have done, my presence unsuspected, an old dog-fox disturbed by the sound of hounds in the distance, slipping quietly away from the covert where he has lain since daybreak, and it is obvious that he has a good idea of the danger that threatens. The sound of the horn has floated down the breeze to rouse him from slumber, from that light sleep which is always of the "one eye open" description, and he is now fully on the alert. He slips through the covert fence, pauses, and looks back, listening for any sounds which may tell what the hounds are doing. The light glances on the golden-brown of his coat, on his pricked ears, on his slender muzzle traced with black, on his white chest, and on his neat paws also finished with black—those long, narrow, dainty pads, that are capable of bearing him many a mile over hill and dale, and which are such a contrast in shape and make to the so-called "cat feet" of his foes.[1] The sunlight shows too his graceful, slender, yet powerful outline against the dark green of a gorse bush, and the dull yellow of some withered grass; it seems to strike fire from

[1] The fashionable English foxhound has such an extremely short, rounded foot that to a naturalist it appears almost deformed.

his glowing coat, which gleams red at every movement. Down the wintry breeze comes the sound of horses trotting, and then the voice of the huntsman putting hounds into covert, but they are a long way off as yet, and the fox appears well aware there is no need for hurry. From the leisurely way he sits down on his haunches, meanwhile licking his nose reflectively, one might think he is weighing up the chances of the pack getting on the line of some other fox. But all the time his keen, somewhat catlike, amber-coloured eyes are fixed in the one direction, and when there comes the sound of the horn, he jumps up, and with a whisk of his white-tagged brush trots leisurely away. He is cool and collected, in no hurry whatever, but determined to take no unnecessary risks, and if the pack should get on his line he has assured himself of a good start. The blackbirds shriek abuse at him from the hedgerows, but he pays no attention to them, and slips silently from sight, disappearing like the passing of a red-brown shadow between the bushes.

Another episode which illustrates the coolness of a fox in the face of danger was that in which a hunted fox took refuge on a ledge in a quarry. He was quite fresh, not having been hunted long, but he made for the quarry where there was a high cliff. In full view of a number of people he was seen to run along a narrow ledge into the cliff, a ledge so narrow that only a fox or a cat could have found foothold on it, until he came to a spot where it became a trifle wider. Here he

deliberately lay down, curling himself up with his brush over his nose, and thus remained, in full view of everybody, apparently indifferent to the hounds baying above and below. Sticks and stones were flung at him, but all fell short of the mark, and he remained unmoved for nearly three-quarters of an hour, when some one, aiming better than the rest, hit him with a bit of stone. He was up and away in an instant, being out over the top of the cliff before huntsman or pack knew what had happened. They hunted him for an hour afterwards, but he beat them in the end.

If it were not for hunting, where would the fox be? Almost certainly a refugee like the wild cat and the marten in the most rocky recesses of the hills, trapped and persecuted, harried and shot, and only holding its own in the most remote districts. As it is, toleration is the portion of the fox throughout England, Ireland, and the Lowlands of Scotland, but with that toleration it has not degenerated into a semi-domesticated creature like the pheasant. No, wherever we meet with the fox it is a wild animal, fearing and shunning man and all his works, a hunter of rabbits, birds, and mice, a raider of poultry-yards, and sometimes in mountainous districts a slayer of young lambs. It is rarely that the lowland foxes commit the latter crime, it takes an old hill fox to do it. The average fox of our English woods lives on much smaller fare, rabbits being the principal item in its menu, as

can be proved by examining the droppings, which are invariably full of rabbit fur. From the same source will be obtained evidence that many other things are not despised, down even to grubs and insects. It is often astonishing the number of beetle wings, or rather wing-cases, that will be found in the excrement, the hard elytra having passed through undigested. The fact is that a fox will eat many unexpected things, from beetles, frogs, and fish, to even fruit. It has a liking for sweet things, and I knew a tame fox that would do anything for jam. There is undoubtedly some foundation for the fable of the fox and the grapes. Foxes are also very fond of mice, in particular the short-tailed meadow voles, which are so plentiful in long grass. They will watch for and pounce upon them, often killing numbers; indeed, the successful stalking of field mice seems to be the first step in the education of the cubs, when they begin to learn their profession as hunters.

That the fox is a hunter is plainly shown by the way it steps. It should be contrasted with the badger, which is not a hunter but largely a scavenger and grub-eater. The latter puts its feet down anyhow, one pad here, another there, careless of whether it makes a noise or not. The fox moves as silently as a shadow, and an examination of its tracks will show the reason why. It is not only careful where it puts its front-feet down, but when it has moved them it takes care to bring the hind-pads forward on to the exact spots vacated by the fore-paws. They register

so exactly that the trail might be that of a two-legged creature. Thus there is no careless stepping on cracking twigs, or rustling leaves, that might alarm the prey that is being stalked. The habit, moreover, is so deeply ingrained in its nature that it always walks, and even trots, in the same manner, whether it is hunting or no. It is only when it breaks into a hurried gallop that it forgets to place its feet precisely, and then its trail is like that of a dog, for it bounds along with exactly the same gait. At other times the only creature with which the fox can be compared in the precision with which it places its feet is the cat. She also is a hunter and an adept in the art of silent stalking. It will be found that she, too, puts her hind-feet exactly on the spot vacated by the fore. After a light fall of snow is the best time to see and study this. Then the movements of the creatures of the night can be read easily by those who know the language of track and trail. You can trace the midnight wanderings of the fox, and learn how he passed by brake and brier bush, through the woods, and down to the stream to drink, you will find where his favourite crossing-place is, and how he stalked mice, rabbits, and other creatures. The snow will reveal how he visited the farm-yard, hoping no doubt that the hens had not been shut up, and one can track his small neat foot-steps even up to the fowlhouse door. But, though one may trail a fox for miles through the snow, it is strange how seldom you will find trace of him killing, and it is evident that a fox

may travel half the night before he meets with any luck.

On one occasion, when following the track of a fox, I came to a place where it was evident that he had stopped short and, after a pause, stepped forward slowly and cautiously. The last foot-prints were pressed deep into the snow, and it was evident that he had sprung forward, for there was a clear space of a yard and a half, beyond which was a trampled circle of snow and red earth. On one side were two or three freshly raised mole-hills, showing dark against the surrounding white-ness. Next was another trampled and pressed circle of snow, in the midst of which lay the frozen carcass of a mole. A careful examination of the spot left no doubt as to what had happened. The fox had been jogging alone when he had noticed the snow heave, and, promptly stopping, had waited and watched the mole raising its new hillock, until the animal at last pushed its way through the soft earth and came out on the surface, when he sprang upon it, and killed it with a single nip. Having killed it, he found it far from his taste, so tossed it about two or three times, dropped it on the snow, rolled on it, and went on about his business.

Moles are greatly disliked by the majority of flesh-eating animals and birds, which, unless pressed by hunger, invariably refuse them, the only exception I know of being the buzzard, which makes moles quite a considerable item in the rations of its young. It has always been a mystery

to me how this bird manages to catch so many, but can only suppose that it watches for those which are unwary enough to venture for a moment to the surface of the ground.

Another small creature that the fox will kill, but not eat, is the common shrew. Like cats and dogs, it will not eat this little animal, being apparently disgusted by the peculiar smell. Curiously enough, owls do not share this dislike, consuming quantities of shrews, but probably their sense of smell is not so keen as that of the fox, dog, and cat.

To return to the trail left by a fox, it is of course much more difficult to track one when the snow has gone, but even then much can be done if you know what to look for and where to search for the signs. On damp footpaths, in places where the soil is soft and wet, and by the margins of the streams, you will find that neat little footprint which was impressed by the pad of a fox. The track is small compared with that of the average dog, and is narrow in proportion to its length. When a raid has been made on a hen-roost it is not, however, usually necessary to look for such details as pad-marks, for the very way in which the robbery has been committed will decide whether the fox was, or was not, the culprit. A fowl is a big mouthful for a fox, it is as much as it can do to carry it, especially if the bird is still able to flap a little, so every few steps it has to stop and readjust its grip. The result is that the course the fox takes is strewn with feathers. There

is not only the ring where the fox pounced on the hen, but its efforts to get a good grip result in many others. You may thus trace the direction in which the victim was carried off, but if it was a dog-fox unencumbered by family responsibilities that did the deed, he will not have taken her far. You will soon come to the spot where he stopped and ate the hen, or part of her, for a fox seldom disposes of a whole fowl at one meal. However, he invariably takes care of what is left, burying it in some molehill or other loose soil which affords good digging, and returning for it in a day or two. My impression is that a fox prefers his food somewhat "high," and that he will have several such "caches." At any rate I know that he seldom forgets to return and finish the buried treasure, but he is highly suspicious, and if he smells anything that suggests human interference he leaves it severely alone.

If a vixen, with cubs to provide for, takes a fowl, the trail will, to begin with, be much the same, but instead of the hen being eaten, it will become evident it was carried right away, for she has borne it off to the cubs. It is a curious thing that, as a rule, a vixen will not kill near home, but goes some little way off to hunt. Perhaps she does not want to draw attention to her litter, but at any rate it is rare for her to take anything close to the earth. I have known cases of fowls roosting out in trees near a covert where there was a vixen and cubs, yet they were never interfered with. Provided fowls are properly shut up

A BEAUTIFUL CREATURE. THE BRITISH FOX.
Cub about four months old.

at night there is nothing to be feared from foxes, but when they are allowed to roost where they choose, or when the hens "steal their nests," as the farmers' wives express it, the matter is very different. The country people have some curious ideas as to the manner in which the fox manages to secure birds that are roosting on branches high out of reach. "He charms 'em down," they say; "he just stares an' stares at 'em until they flies down into his mouth!"

Another story is that the fox "Takes his tail in his mouth an' runs round an' round in a circle under the trees, when them fowls stares an' cackles, an' stares an' cackles, an' at last flies down to see what he be about!"

At the bottom of these wild and impossible stories there lies, I believe, two small grains of truth, namely that fowls are intensely inquisitive, also very nervous and easily frightened. I shall never forget the excitement that was caused when I took a tame fox through the farmyard; the ducks quacked and waddled after him, while the cocks and hens cackled, all following as near as they dare come; in fact, there was a great commotion. After seeing this I could well believe that hens at roost in a tree might, if disturbed by a fox prowling beneath, work themselves up into such a state of "nerves" that they would eventually fly off their perches. Once on the ground their fate would be sealed!

That a fox will often kill when he does not need food cannot be disputed. He will slay for

pleasure, for sport, and that is why he does so much harm among poultry; for he is not content to slay one hen to stay the pangs of hunger, but will kill all he can.

Among game the fox does more harm in the late spring than at any other time of year, newly hatched pheasant and partridge chicks falling easy victims. He also takes a good many sitting birds, though a surprising number elude his keen nose. A sitting pheasant or partridge gives off but little scent. While sitting motionless on her eggs a bird is fairly safe, for her sombre brown and grey plumage harmonizes so well with her surroundings that she is practically invisible, and her tell-tale scent is reduced to a minimum. It is the latter which is the most likely to betray her to a passing fox, for, like all wild animals, the fox depends more on its nose than its eyes. To the wild world the breeze carries a varied collection of scents and odours, so that to birds and beasts it is more laden with news than the most go-ahead of newspapers is to us. So the fox, roaming the country-side on a spring evening, depends on his sensitive black nose to warn him of danger, to find his mate, and, last but not least, to discover his night's meal. But the sitting pheasant or partridge is almost odourless, and she is seldom disturbed until the end of her task is in view. Then the dangerous time arrives, when tiny mysterious cheepings are heard in the eggs, and the proud mother becomes restless. She raises her weight from the eggs, sits lightly, shifts about,

and behaves as though eager for the chicks to break their shells so that she may take them off. With all these restless movements her characteristic odour is spread about and rises through the air, so if a fox chances to pass by before she can get the family away, both she and her chicks are doomed. Again and again one will find cases of pheasants and partridges being captured when about to hatch out their eggs, and every farmer's wife will tell you how the hens that " steal " their nests (i.e. steal away and make their nests under a bush or in a hedgerow) are usually taken by the fox when on the point of hatching out their eggs.

The ground-nesting birds have certainly many risks to face, and when the partridge, for example, has safely hatched out her dozen or more dainty brown speckled chicks she has by no means done with the fox, she has still his keen nose to dread, which will surely scent out those helpless mites unless she takes care. However, she is not without guile—when the hunter of the night comes at dusk questing across the meadows, he often puts up a wounded bird, that flaps feebly in front of him, trailing a broken wing as it endeavours to get away, yet which is able to elude his rushes in a strangely agile manner. After the fox has made several futile dashes at it, being lured farther each time from the neighbourhood of the crouching chicks, the partridge suddenly finds it can use its wings quite well, and flies away, leaving him befooled.

With this old, old "broken wing trick," partridges, lapwings, etc., draw foxes, dogs, and cats from the neighbourhood of their young, but even this clever make-believe does not always save the chicks. Yet, taking all in all, the fox probably destroys more young rabbits than it does birds. Where rabbits are plentiful you will find trace of scores of nests being raided. When a fox by means of its keen sense of smell ascertains there are young ones in a rabbit hole, or when it comes across one of those sealed nurseries which the doe has closed by filling the mouth with earth and stamping it down, it does not attempt to scratch a way in from the mouth of the hole, but quests about on the top of the ground, until it locates the spot beneath which the young ones are lying, and then digs straight down upon them. A badger goes to work in the same manner, but it makes a bigger entrance. The work of a fox is unmistakable; the hole is small, round, and neat, and goes straight down into the burrow, so that the unfortunate young rabbits are extracted with a minimum of time and labour.

Writing of the manner in which foxes capture their prey reminds me to mention that the dog-fox is a devoted mate, and that when one finds evidence of birds and rabbits having been carried off, it does not follow it was a vixen taking food home to the cubs, it may have been the dog-fox undertaking the same duty, and helping to keep the family supplied. From what one hears and sees I judge that, at any rate during the breeding

season, each pair of foxes has its own territory, from which they do not wander far, and on which other foxes do not poach.

Though for the greater part of the year the fox is a silent creature, seldom giving vent to its feelings, yet there is one time when it finds its voice, namely in the winter when mating takes place. On a quiet evening in December or January you will hear the foxes calling. It is a peculiar short, sharp bark that they give, but it is quite unlike the bark of a dog, being just "Wough! wough!" then silence, the two barks being repeated after an interval of some seconds. I have heard a fox barking from the same spot for half an hour or more, but as a rule they bark as they travel, you hear the call in one spot, and in a few moments somewhat farther on, and so can tell the course the fox is taking. The restless cur-dog barking from some farmyard need never be confused with a fox, for it barks steadily, continuing with hardly a pause for fifteen or twenty minutes at a time, but the fox never gives more than three yaps together, and usually it is but two. Heard close at hand the sound seems hardly a bark, but appears to be a gasp, as if made by suddenly expelling the breath. Heard unexpectedly in the dark it is quite startling, but is not nearly so hair-raising as the cry of the vixen, as will be presently recounted. By the way, it is probable the vixen barks as well as the dog-fox, but it is certainly the latter whose yap we chiefly hear echoing through the woods in December and January. Barking

begins in December and continues through January into February. One does not hear much after the middle of the latter month, though now and again you may hear a solitary bark in March or even in April.

To hear foxes barking you should go out at the " edge of night " and wait and listen, but it will be no use if the evening is a wet or windy one. Bad weather damps the spirits of the creatures of the dark, rain and wind silencing even the owls. Yet if the evening is calm and fine, it does not follow that you will hear anything, for there seems to be factors beyond our appreciation which govern the activities of the wild world. What I mean is that one night the country-side will be full of life, owls hooting in every direction, badgers grunting on their nightly rounds, and foxes barking on all sides ; yet the next evening, which to our comparatively dull human senses is just as fine and beautiful as the last, not a thing will be stirring, woods and meadows seeming devoid of life. Possibly wild animals are more sensitive than we to atmospheric pressure. I mean that with a " high glass " their spirits rise, and vice versa as the barometer goes down. At any rate I have never noticed any great activity with a falling glass.

Writing of foxes barking reminds me of an evening when, on going out to listen, I heard them barking on all sides. It was barely dark when the first began. " Wough ! wough ! " came faintly from the distant dark smudge, which in the failing

light indicated a wood-clothed valley. The nearer coverts loomed black and forbidding through the twilight, and from their dim and mysterious recesses came the hoot of first one owl and then another. Hill and valley echoed with their thrilling cries, mingled with which came faintly the bark of another fox. It was a long way off and in the opposite direction to the first; both, it was evident, had just emerged for the night's prowl, and were greeting all and sundry. By the way, a fox as a rule barks early in the evening, before beginning his night's hunting, and it is exceptional to hear one later. A fox will sometimes bark on his way home in the morning, but even that is not usual. The general practice is to begin soon after dark, and continue at intervals for an hour or perhaps more, and then go off about the business of the night.

On the evening of which I am writing another and yet another fox joined in, until it seemed as if there were at least twenty barking. Most of the cries came from far away, from the distant woods across the valley, but one rang out quite clearly, the fox was not a field's length off. Allowing for the fact that most of the animals were on the move, that not one of them would call twice from the same spot, which made the number barking seem much greater than it really was, there must have been eight or nine calling within a mile radius of the spot where I stood. "Wough! wough!" came again the bark of the nearest fox, nearer still this time, and sounding weird and thrilling in the dark, through which one could see

little save the indistinct black shapes of some cattle that were lying out in the meadow. Vainly I peered into the darkness in the hope of seeing something of the one that called, for I felt sure the fox was making for a certain gap in the fence, whence he would pass round a pond, and up the bank to some gorse bushes where there is a big colony of rabbits. If you listen to the foxes night after night, if you study their trails left in gap and gateway, you will find that they have their highways, their recognized paths, and that these are used year after year. I know of a certain small gap in a hedge, a mere run through the bottom of it, nearly always used by any fox crossing that part of the country. In the morning one will find a bit of brown hair caught on a brier, and maybe a pad-mark in the soft earth; there may even be a whiff of that rank smell so characteristic of the animal. But all this has already been alluded to when speaking of tracking and trailing, and we must return to the evening which was being described, when all the foxes in the country-side seemed to have gone mad.

Hardly had the nearest one barked than fox after fox replied to the challenge, or love-song, for it was probably the latter. At any rate it was something more serious than mere rabbit hunting which had set all the foxes of the district barking like a lot of silly dogs. The explanation of the excitement, the answer to all these calls, came suddenly and unexpectedly—out of the darkness near at hand came a wail, a terrible

mournful cry, rising, and shivering away through the still night air, like the last gasping cry of a lost soul in torment. A mixture of a whine, a gasp, a spit, and a howl, which startled even the hooting owls into silence. Though I knew well what it was, it made me shiver, it rasped my nerves until I could have screamed too. It trembled to and fro on the echoes ere dying away into silence, after which, for some minutes, not a sound save the slight rustling of the leaves upon the trees was to be heard. Then again rose the gruesome cry, cutting through the peaceful night, and making one wonder if after all it could come from the throat of any mere animal, or was uttered by some lost soul wandering beneath the trees. It is no matter for surprise that the country people think there are spirits abroad in the midnight woods, when this is the sort of thing they may chance to hear if they wander through them after dark. Yet, after all, it is but the mating cry of the vixen, her answer to her wooers, the foxes which have been barking to her.

On this occasion they replied to her from all sides, and three times at intervals she screamed her answer, after which silence fell, save for a fox that yapped once in the far distance, and, though I listened long, I heard no more—the night held the secret of what had taken place. What happened? Did that fox which had barked so near find favour with the lady, and did she accept him as her mate? Or did she decline them one and all, and go off somewhere else to make her

choice? Who can say? The gloomy night told no tales!

The dog-fox certainly wanders far afield in the breeding season, especially in districts where foxes are not too numerous, when he may have to cover miles of country to find a mate. It is under such circumstances that hounds have had their greatest runs, for, caught sleeping out far from headquarters, a fox, at the first hint of danger, immediately makes for home. Then it is that extraordinary points are recorded and that history is made.

I have often wondered how a fox manages that mates with a vixen far from his own territory, for there is plenty of evidence to show that the pairs keep together, the male helping to provide for the family, so when a fox allies himself with a vixen of a strange district, does he make her come home with him, or does he go and live in her country? I fancy the latter, for it is the vixen which will select the place in which the cubs are to be reared.

Before going on to write of the cubs, it must be mentioned that the courtship is not always a peaceful one, for sometimes rival suitors do battle for the lady's favours. My brother once had the luck to be, not an eye-witness, but an "ear-witness," of a fight. He was coming through a wood just as it was getting dark when he heard a fox bark. He stopped to listen, and soon heard another call in the opposite direction, to which the first replied, whereupon a vixen screamed

A YOUNG FOX.

from the shelter of the bushes but a few yards away. The dog-foxes answered simultaneously, after which he heard them come pattering over the dry fallen leaves with which the wood was carpeted. Next there was a hissing growl, followed by much spitting and hissing, which suddenly resolved itself into a confused noise of rolling, tumbling, and snarling, the undergrowth breaking and tearing as the combatants struggled to and fro. For ten minutes or more it went on, during which he could not see a thing, though it was evident from the noise they were fighting furiously. The battle ended abruptly, there was a pause, and he heard them gallop off. Whether they had had enough of the combat, or whether one of them had caught his scent and had taken alarm, he did not know; they vanished into the night and the darkness betrayed no more.

In this country fox-cubs are born from February to May, but the former month is exceptionally early, the end of March and beginning of April being the more usual time. Previous to the arrival of her family the vixen explores all the holes in the neighbourhood, from proper fox earths to mere rabbit holes, that are likely to make good nurseries, and when she has made her choice remains near it, or even uses it as her daily retreat. Very often, especially if a rabbit hole has been chosen, the abode has to be altered and enlarged, when the freshly drawn pile of soil without, tells the tale of what has been happening underground. The type of hole the vixen prefers above all others

is situated in a layer of sand, with a stratum of clay above. The latter keeps the abode dry, while the sand affords easy digging. In such a spot she soon excavates a proper earth. But circumstances alter cases, and among the mountains a crevice in the rocks may have to content her, but even in such districts there are usually well recognized fox earths; for instance, on the Lakeland Fells there are great "borrans" that have been the refuge of foxes for many succeeding generations, and in which cubs are reared annually. As said before, circumstances alter cases, and there is one district, a certain far-extending tract of woodland, where it is not uncommon for cubs to be born and reared above ground. The undergrowth is very thick, and a vixen will sometimes make her nursery in its most impenetrable recesses, and therein rear her family as a hare rears her leverets in a form.

Of course vixens often move their litters; indeed, it is only necessary for a person to go near an earth in which there are cubs to make the old fox carry them off the next night. That fear of man, and all his works, which is so strongly implanted in every wild creature is doubly intensified in the anxious mother, and at the least hint of interference she picks up her cubs, taking them one at a time, and carries them to one of the many holes within her beat.

This mention of moving cubs reminds me of a story told me by an ex-gamekeeper. "My late master didn't like too many foxes about," he

explained, "so when, one day, I found there was a litter of cubs in a certain earth, I soon fetched some help, and we set to work to dig them out. I thought we should get the vixen as well, but, though we found the cubs all right, she wasn't with them, and it was the old fox I wanted worst of all. After thinking for a bit I sent the men off home, and then took the cubs and put them down in a patch of fern a few yards from the earth. They were quite young and much too small to crawl away, but they kept whining, and I made sure that she would come back towards evening and would then either hear or wind them, and that if I waited quietly behind a tree, down wind of where they lay, I would get a shot at her. Well, I waited and waited, but nothing happened, not so much as a grass blade stirred, and I will swear I never took my eyes off the spot. At last the dusk began to fall, the owls started hooting, and then I gave it up. I went to pick the cubs up, but they weren't there! I remembered they'd stopped whimpering some time before, yet I couldn't believe they'd gone. I searched everywhere, and then it dawned on me that that blessed old vixen must have fetched them from under my nose! There was a bit of a ditch, not much of one, which she must have crawled up. It was hardly more than a furrow in the ground, still that was the only way she could have done it, and she must have made the journey five times, for there were five cubs, and all were gone."

Such was the story as told me, and he added that he never discovered where she took them to.

Litters of cubs vary much in number, but five or six is the average. For the first few days the vixen lies with her family, but she soon gives that up, only visiting them as required, meanwhile keeping guard somewhere near, very often lying just by the earth. As they grow older and can see well the cubs are very like a lot of mischievous puppies, and if the old fox lay with them she would indeed have a troubled time, but this she avoids, as already pointed out, by taking up her station outside and visiting them at intervals.

As the appearance and development of the young cubs is very fully described in the next chapter, I shall have little to say about cubs here, except to mention that it is astonishing the variation you will find within a litter. One will have hardly any tag to its little brush, the next will have a great deal of white, another will have quite a dark coat, and the fourth will be a particularly light-coloured fox. Such differences are independent of sex, and one of the finest tags I have seen decorated the brush of a vixen. The old idea that a white tag denotes a dog-fox is quite wrong.

It has also been stated that the mountain fox is a bigger and finer animal than that of the Midlands of England; certainly hill foxes are often a large size, but we get big foxes in the lowlands

too. Where the hill fox scores is that it has to travel farther and work harder for a living, rabbits being scarce on the Welsh Hills, on the Fells of the Lake District, and on the Scotch Highlands, so it usually has to cross a lot of country before it finds a meal. This means that it is a bolder, wider-ranging fox, but of real difference there is none, and throughout the British Isles we have but the one species.

In conclusion I would like to give a word of advice to any one who may contemplate making a pet of a fox—that is *don't*. The fox is one of the most beautiful, charming, and fascinating of creatures, but it is always a wild animal which should be roaming the woods. It has no grain in its character of that devotion to man which makes the dog what it is. I have had several tame foxes, and been well acquainted with many others, and can only say that the fox is not a domesticatable creature; however tame your cub may be, there sooner or later comes a time when you must either turn it loose in the woods, or condemn it to become a captive, tied up by collar and chain, or imprisoned in a kennel, when it leads a dull, unhappy, monotonous existence. Far, far better, to let it live out its woodland life, whether short or long, with its joys and sudden dangers, its surprises and excitements.

(*According to the present classification there are two species of fox in Europe, the common red fox,* Vulpes vulpes, *Linn., of the Continent as a whole,*

and a smaller kind peculiar to Corsica and Sardinia called V. ichnusæ *by Miller. The first-named species is subdivided into three forms, these sub-species being* V. v. vulpes, *Linn., of Scandinavia;* V. v. crucigera, *Bechstein, of central Europe, including the British Isles; and* V. v. silacea, *Miller, a light-coloured race found in Spain.* V. v. crucigera *differs from the northern form of the red fox in having smaller and less robust teeth.*)

CHAPTER VI

THE "CALL OF THE WILD"

(BEING THE HISTORY OF A TAME FOX)

HAVING given some account of the fox at home in its native wilds, I am going to devote a chapter to the history of a tame one, as the story shows what a real force is the "call of the wild."

It was early in April—April 5th, to be exact—when two tiny fox-cubs were brought to me. They were very small and young, not more than two days old at the most, and I gazed in dismay at the tiny, grey, kittenish things, for I knew it would be an almost impossible task to rear them, yet there was something so babyish and motherless about them that I had not the heart to refuse to try.

They were a dark grey-brown, almost mouse colour, in tint; they had snub noses, and short tails that were already tipped with white; their tiny ears lay flat against their heads; they were, of course, blind, and had not a trace of teeth; indeed, they were just like newly born kittens, and no one who had never seen very young fox-

cubs before would have imagined that they could develop into long-legged graceful creatures.

Putting them under my coat to keep them warm, I tried to think of ways and means by which I might take the place of the vixen; but the whimpering of the little animals showed that so far they did not think much of the exchange. The first thing was to feed them. I got some warm milk and a fountain-pen filler, made a hole with a pin in the indiarubber, and tried to get them to suck the milk through it. It is wonderful what strength and obstinacy there is in the youngest of babies—whether human or otherwise—and these blind, helpless mites refused most resolutely to suck. It seemed as if they would never take any milk, but with patience I at last overcame their objections. Time after time I slipped the indiarubber teat between the clenched toothless gums; at last one, the smaller, bit at it and accidentally swallowed some milk, after which she began to suck and there was no more trouble. But the bigger cub, a male, took longer than the little vixen to learn where warm milk was to be had; still he found out at last, and was then the greedier of the two. In a wonderfully short time, considering how tiresome they were to begin with, they learnt to know sounds, and also the smell of my fingers, and would wriggle out of their warm bed as soon as I put my hand near them.

But this is getting on too fast; I must go back to where, having got each to swallow a few drops

1. THE CUB AT FOUR DAYS OLD.
2. TOBY AT FOURTEEN DAYS OLD.

of milk, I was wondering how they were to be kept warm and comfortable. The problem was solved by means of a basket, a soft piece of flannelette, an old blanket, a hot-water bottle, and the hot-air cupboard. In the meantime my family made remarks and criticisms, which varied from my brother's jeering advice, "You had better take them to bed with you," to my mother's despondent forecast of, "They will not live a week, and it would be far kinder to put them out of their misery;" but they all took great pains to help me, and without their assistance I should never have succeeded in rearing "Toby," as the vixen was named.

The cubs required endless attention. To begin with I fed them every two hours, the last meal in the evening being between 9.0 and 9.30, and the first in the morning between 5.0 and 5.30. Thinking to save time and trouble in the early hours of the morning, I one night carried their basket into my bedroom, but about two o'clock was roused by their whimpering. Turning over sleepily, I said to myself that the cubs would have to wait until daybreak, but they had no intention of doing so, and the whining rose to almost a shriek! Despairing of sleep, I had to get up, go downstairs, light the spirit-lamp, heat some milk, and feed them, after which they cuddled up together against their hot bottle and went to sleep again. I got back into bed wondering whether, after all, rearing fox-cubs was worth the trouble.

At first they only had a few drops of milk at each meal, but as I lengthened the intervals I gave them more at a time. It was undiluted new milk, and appeared to suit them, for they throve on it, growing fast, and being always hungry. Even at this early age they were fascinating little things, there was something so appealing about their helplessness and in the way after they had fed they would lie in my hands and go to sleep. When put back in the basket they promptly crawled and wriggled on to the top of the water-bottle, where they lay full length, either side by side or one on the top of the other. The dog cub, who was called Jack, was decidedly bigger and more forward than Toby, though she was the first to open her eyes. This was not until the 17th of April, that is the twelfth day after I had them, when I should assume her to be fourteen days old; however, it was but one eye, and only half open at that. Her eyes were not properly open until the 22nd, when, according to my calculation, she would be nineteen days old. The slowness of the development of fox-cubs in this respect is similar to that of polecats, ferrets, stoats, etc.; possibly it has something to do with preventing the young ones straying out of the hole when their mother is away, and while they are yet too young to run back at the approach of danger.

Before Toby had reached this stage a sad mishap had taken place—Jack had caught cold and had died suddenly. I was entirely to blame. He had

a trick of scratching at the flannel cover of the hot-water bottle, and it made his soft little feet quite sore. I used grease, cold-cream, etc., upon them, but could not get them right, and, on considering the matter, came to the conclusion that the water-bottle was unnecessary, for cubs would not have any heating apparatus under natural conditions in an earth, and the vixen must be away for many hours at a time; so I took it from them during the day. The result was that next morning Jack refused to suck, he was not hungry again in the afternoon, and at dawn the next day I found him dead. Bitterly did I blame myself, but it was too late, and all I could do was to see that little Toby never needed something warm to lie against. The consequence was that she had her hot bottle filled several times daily, until she was quite big, and had long ceased to need it. After this she was indeed a pampered pet! If I was out for an hour or two my mother looked after her, and one of us was continually playing with or feeding her. When once her eyes were open she became quite lively and active, and began to play, making little feeble pounces at our fingers, and pretending to worry them. Her teeth were now appearing, little sharp pin points that made themselves felt on one's fingers, and, judging that with their advent she would be ready for solid food, I offered her bits of meat. Though it was rabbit flesh, the most natural food one can offer a fox, she resolutely turned her snub nose away, until I accidentally placed a piece of rabbit meat, with

the fur attached, before her. She smelt it, with as little interest as before, until her nose touched the fur, but the moment she brushed against the fur she growled like a little fury, at the same time seizing and shaking the bit of rabbit. It was the first time I had heard her growl, but there was no mistake about it! The interesting part was that she showed no understanding of what the raw rabbit flesh was, but that when she touched the soft fur it awoke the instinct to pounce upon and worry a furry thing, and thereafter she appeared to know all about meat. An episode of this sort makes one wonder what passes in the mind of a young animal when it acts instinctively. Does the rousing of the inherited impulse bring with it a full understanding of what is done, or does this understanding only come with time and experience? I expect the latter, for it is obvious to any one who watches animals that though they may depend on instinct in some particulars, they learn from experience, and in many cases are taught by the old ones.

I did not let the cub have much meat the first time for fear of upsetting her, but there were no evil consequences, and henceforward flesh was included in her daily ration. Milk still formed the greater part, but it was now taken from a baby's bottle, the fountain-pen filler having been abandoned after the first few days. I must here remark, for the benefit of others who may be contemplating bottle-feeding a young animal, that I had great difficulty in getting a teat with a hole small enough.

TOBY AT SIX WEEKS OLD.

TOBY AGED SEVEN WEEKS.

When it was too big the little thing took the milk too fast, either being choked by the rapid stream, or, if able to swallow it, getting violent indigestion from having taken it so quickly. Try as I would I could not get one that was quite right, and had to resort to all sorts of expedients to prevent the cub from getting the milk more rapidly than she should.

When Toby's eyes first opened they were a dull grey-blue like those of a small kitten, and it was a long time before the irides assumed the amber hue of the adult fox, the tint altering at about the same rate her coat changed. At twenty-two days old she was just beginning to turn from mouse-grey to brown, especially about the face and muzzle, at which time her nose, which had been flesh-coloured, began to darken, turning first grey, and at last black. In a sketchy manner she began to acquire the markings of an old fox, but it still required a great deal of imagination to make a fox of this blunt-nosed roly-poly little creature, with her woolly grey coat, and short feeble legs. She was nearly five weeks old before she could toddle at all, but having once begun to "feel her legs," as they say of babies, she soon got strong upon them, and became quite active. At this stage I had to leave home for a week, during which time my mother was good enough to take charge of the cub, and when I came back I was astonished at the change. In seven days she had altered wonderfully, and had become quite the little fox. The amount she

had grown was really surprising: her ears had developed, her eyes were bright and inquisitive, and her tail—it could not yet be called a brush—was almost twice its former length. She had now a pronounced white tag, which goes to prove that a tag is no indication of either age or sex; indeed, as mentioned before, one of the most beautiful brushes I have seen was that of a vixen.

Toby, now six weeks old, was a dear little thing, with the most engaging ways. She was full of life and spirits, and would play like a kitten, biting my fingers, pouncing on them, then rolling on her back, and kicking in the air with all four feet at once. She now required more space than the narrow limits of the box to which she had been transferred from the basket, so I turned the box on its side in an empty room. Here she could run about and take plenty of exercise, being able to go back to her bed when tired. I provided a tray of sand in a corner of the room with a view to training her in cleanly habits, and I must add that she proved on the whole most remarkably clean, but the first use she put it to was that of a store place. Going into the room, I found her in the act of burying a piece of meat in the sand. She was doing it beautifully, just as a dog buries a bone. She had scratched a hole, and was just putting the meat into it. She dropped her treasure in, then pushed the soil back with her nose, continuing to heap it up until she had quite a pile. I found that the flesh of old rabbits suited her better than that of young ones, and

that above all things she loved a bone to gnaw at. She sometimes growled quite angrily over a leg of rabbit, and if I persisted in interfering she would carry it away and hide it. Though now able to eat well, nothing would induce her to lap milk, and I still had to give her her bottle every four hours, it being some time before she took the milk from a saucer. She would rush to meet me, trying to climb up my skirt, and the minute I sat down she was upon my knees. Of course her bringing up had done away with fear—she did not know what the word meant, and was not even timid or nervous with strangers; indeed, they always interested her. She would sniff their boots and legs, and find out all she could about them, for her curiosity was great. She knew the different members of the family, and had a special form of greeting for my mother. She would run to her, smell her hand, then open her mouth, as if in a wide grin, at the same time making a panting, hissing noise, and then with ears laid flat to her head race round and round the object of her attentions. She would continue this for two or three minutes, until my mother picked her up and played with her. It seemed to be a demonstration of delight, especially as she was devoted to my mother and would follow her about. She never followed me; she seemed rather to expect me to follow her!

I never succeeded in instilling the slightest idea of obedience into her. As said before, she was not only tame but perfectly fearless; she had

no friends but human beings, but she had no idea of coming because one of them called her. She looked to no one for orders or for leadership. I have heard a theory that the dog's obedience is derived from the instinct of his wild ancestors, that hunted in a pack, and gave their allegiance to a pack leader. There may be a good deal in it, for it is certain that the fox, which is a solitary animal, has no more idea of doing what it is told than it has of flying. Not that Toby was lacking in brains, for the older she grew the more intelligent she became, but her mentality was more like that of a cat. The fox in many ways has more in common with the cat than the dog, and Toby in character greatly resembled a kitten, though in some of the mischievous tricks she played there was far more of the puppy than the kitten. She was certainly a very spoilt pet, for we were all devoted to her, and wasted much time playing with her. At eight weeks old she was like a puppy, galloping all over the house, and getting into every description of mischief. She loved to get into the bedrooms and pull the boots from under the dressing-tables. She spoilt one pair for me before I knew what she was doing, and as for boot-laces she chewed up an appalling number. She simply loved them, which was queer, as they never agreed with her, seldom, if ever, failing to make her bilious. Nevertheless she would eat them whenever she got the chance, and hardly ever failed to take advantage of an open bedroom door. More than once, after Toby had visited

1. TOBY AT TEN WEEKS OLD.

2. TOBY ON THE DOORSTEP. "WHAT SHALL I DO?"

3. THE CUB WHEN THREE MONTHS OLD. "WHAT MISCHIEF NEXT?"

4. RESTING WITH ONE EYE OPEN.

my father's dressing-room, I had to pay a visit to the bootmaker and lay in a stock of new boot-laces—best porpoise-hide, even in those days sixpence the pair!—so that I might replace the damaged ones quietly, and without drawing too much public attention to her misdeeds. She was not always content to attack empty ones, but would even begin pulling at the boots on your feet. Her favourite playthings were a pair of old felt bedroom-slippers. She would rush at these, pick up one, and go round the room in a series of high bounds, shaking it all the time like a terrier killing a rat. She would worry it until tired of the game, but, if I moved towards it, she would rush and pick it up and begin her play over again. A ball kept her amused for an hour at a time; she galloped upstairs and down with it, letting it fall, and then running after it, pouncing upon it, and pretending to kill it, until tired out at last she lay down, curled up, and went to sleep.

At first she was nervous of venturing out of doors; she would go to the front door, and stand on the step sniffing the air and looking out on the world, but at the slightest strange sound would bolt in again, even rushing headlong up the stairs and away to her own room. But she soon grew bolder. She began by venturing a few steps, sniffing at and investigating everything she met, after which she explored the gravel drive in front of the house. Next she found the lawns, then the shrubberies, after which she was as anxious to play about outside as she had previously been to

stop indoors. And how she did romp, especially in an evening! She would gallop round and round, rush at me, spring aside, leap and bound in the air, and all so lightly and gracefully that she was a joy to watch. Her antics seldom failed to attract the tame wild ducks from the ponds; by twos and threes they would come waddling up, quacking earnestly to one another as they did so, and evidently bent on seeing what manner of strange creature it might be that was rushing about in this wild way. When they came near Toby would make dashes at them, scattering them in all directions, but back they came as soon as they had recovered from their fright, for she exercised the greatest fascination over them. Not even a strange dog had so potent an effect. I was afraid lest she should one day kill a duck, for she amused herself by doing elaborate stalks and then springing at them, but her mimic hunting did not materialize into anything serious.

Toby also had great fun with the cats and dogs, though not one of them really liked her. She had no respect for them, and took liberties with their persons which they could not forgive. She would rush up and bite them. The nip might be only a playful pinch, but there could be no doubt that the recipients saw little fun in it, and what was worse, when they retaliated, they got into trouble with me. When a cat smacked back, or a dog growled, I rated them; for the cub was hardly old enough, or strong enough, to hold her own in the event of real strife. The

result was that when any of the dogs saw Toby coming they fled in the opposite direction. For a time there was one exception, an enormous black and white cat, which was a confirmed poacher, and so, for his sins, spent a great part of his time tied up like a dog to a kennel. He was not a good-tempered creature, and I was afraid lest he might hurt the cub if he met her when he was allowed out for a walk, as he was an exceptionally powerful cat and a dreadful bully, but I need not have been anxious. One morning I opened the door to let Toby out, and as I did so caught sight of Spitfire, as the cat was called, vanishing round the corner of the house. The cub saw him too, and regardless of my calls raced after him. I ran after the two, fearing a tragedy, and was in time to see the valiant Toby catch up the rather startled cat—a cat accustomed to rule not only his own kind but to bully the terriers as well. The cub rushed in, made a "put" at him, and as he swung round she caught him in the flank. Judging by the squall the cat gave it must have been a good bite. The next thing I saw was Spitfire flying for his life and Toby in hot pursuit. They vanished into a shrubbery, where I found the cat up a tree spitting at the cub, who was looking very pleased with herself. I caught her, and took her indoors, and then tied Spitfire up to his house. From that time she delighted to tease him. She knew exactly the length of his line, and would dance round him, or rush past just out of reach. When he was not looking she stole his food; in fact,

she made his life a burden to him, and poor Spitfire had to endure her attentions, for he never got a chance of repaying her, and dare not if he had, for, like all bullies, he was a bit of a coward.

Toby, having learnt her way about the garden, had become as bold out of doors as indoors, but she was sometimes frightened by strange noises. She did not mind a sound, however loud, if she had heard it before, but anything new would send her, helter-skelter, to the house. The fact that she always ran straight home when frightened made me think there was no fear of losing her. It was her home, she had nowhere else to go, and no reason to run away, was my argument, but I forgot that most powerful of impulses, the "Call of the Wild," which will so certainly lure a tamed animal back to its native woods. Sooner or later the spell works and they go. But, before telling of the end, I must say how Toby grew and flourished, how her long thin tail filled out into a thick brush, how her woolly grey covering gave way to the handsome coat of the adult fox, and how at three months old she was a most lovely creature. Each day she became more charming, more mischievous, lovable, and wilful.

She would come out of her sleeping box, spring upon my knee, and sit down to be stroked and petted, gradually rolling over, until she lay on her back on my lap, so that I might tickle and stroke her underneath. Then, with many yawns, which showed all her strong white teeth, and much

1. AND 2. TOBY HAVING A GOOD ROMP.

3. TOBY TEASING SPITFIRE THE CAT.

stretching, she would reach the playful point, and, jumping to the ground, run away to amuse herself; or else begin to tease me, biting my shoes, pulling at my skirt, and not resting for a moment until I rolled her over and joined in the romp. By the way, a noticeable point about this cub was that she did not smell in the least, there was no objectionable foxy odour, and after playing with her there was no suggestion of fox upon one's clothes. As she was fed perfectly naturally, flesh forming the greater part of her diet, I can only attribute this to the fact that her surroundings were kept clean, that she was not allowed to lie on the same bedding for long. Possibly the characteristic fox smell would have developed as she got older.

To return to her playful ways, one evening she kept worrying me when I was writing a letter, until, at last, in desperation, I flung a cushion at her, when with great delight she pounced upon it. It yielded under her feet, and for quite ten minutes she jumped up and down on it, pouncing again and again on the soft thing, until tired of it she rushed outside. When she went into the bushes and failed to pay any attention to my calls, I used to get some one to go to the farther side and make a noise, but it had to be a different one each time or the spell failed to work, and instead of running hastily home she merely went up to them to see what they were doing.

One evening (it was July 1st, and even now I hardly like to write of it) she went out as usual

into the garden for exercise, played about for a little, and then I saw her run under some bushes. I called her back, but she did not come, so I went to see what she was doing. I could not find her; I hunted high and low, and looked in all directions. Others came to help, we all called and searched, but she had vanished. "She will turn up presently," we said, reassuring each other, but she did not. We never saw her again.

For many nights the doors were left open, rabbit meat was placed in readiness for her, and I scoured the country in all directions, trying in vain to find some trace of her; but she might have been spirited away, and I have no theory to account for her sudden and complete disappearance save the "Call of the Wild." She must have on a sudden impulse run away into the woods. Poor little, affectionate, fascinating, yet wilful Toby, I wonder what her fate was? She was a teasing, worrying little imp, but I would have given much to have had her safely back or to have known for certain that she could earn her own living, and was hunting and killing for herself in the wild woods.

(*For a note on the status and scientific name of the British fox see the end of Chapter V.*)

CHAPTER VII

THE SPARROW HAWK

AN outlaw and a freebooter is the sparrow hawk, with every game-preserver's hand against it; we find it hanging, a tattered and weather-worn corpse, from the keeper's gibbet, where it swings with crows, magpies, jays, and other so-called "vermin," until the wind and rain beat it down and it drops to the ground to be covered by the kindly ferns and mosses.

Between that poor remnant of feathers and bones and the fine dashing bird that puts panic into the hearts of the blackbirds there is a wide gap, but the gun bridges it! For the gamekeeper is a deadly foe. So persecuted is the sparrow hawk that it is quite scarce in the well-preserved woods of the Midlands, but where wild life has had its own way for a time we may be sure of meeting with it. Wherever there are big woods and tree-clad valleys it is plentiful, and one finds it throughout the Welsh "Marches." It is essentially a tree-loving bird, and you seldom meet with it away from the neighbourhood of timber. The kestrel one may see on the open moors, or find nesting

on crags and cliffs, but the short-winged sparrow hawk is a bird of the woodlands. Its very shape and make denote it a forest species, being an adaption for turning and twisting through the trees, among which it is a wonderful flier. It has short rounded wings and a long tail, so can get up speed, stop and turn, in a wonderfully small space. In a short sharp dash the sparrow hawk flies at a great pace, but in a long flight many birds can beat it, and I have seen a thrush fly right away from a big female. She was fairly beaten by it.

Though the sparrow hawk is often confused with the kestrel, there is really little resemblance. The latter belongs to the long-winged hawks, in which the tips of the narrow wings reach almost to the end of the tail; in fact, it is a small falcon, though without the courage and dash that distinguishes the peregrine and the merlin. But it has, like them, great dark eyes and short, comparatively feeble, legs. The sparrow hawk is quite different; it is a typical short-winged hawk. It has eyes with wonderful yellow irides, which give it an exceptionally keen fierce aspect, long legs, and big feet, while its wings are short and rounded, their tips reaching little more than halfway down its tail. Besides which the latter has a horizontally barred and pencilled breast; in the kestrel the breast is striped perpendicularly. In the case of that fine Continental bird the goshawk, which is like a sparrow hawk only much bigger, the young for the first twelve months

of their life wear a striped plumage, which at the first moult gives place to the horizontal bars of maturity. But the nestling sparrow hawk acquires these bars straight away.

The sparrow hawk, despite its sober hues, is a handsome bird, being a study in ash-browns and greys, which are set off by the yellow of its legs and eyes, the latter in old birds approaching orange, for the tint deepens with age. Its plumage, too, alters with succeeding moults, becoming much more grey, especially in the case of the cocks, which often have an almost blue tinge on the back and tail.

Even on the wing the sparrow hawk need not be confused with the kestrel, for they fly so differently. The subject of this chapter usually flies low, especially when hunting, skimming along the ground, up a hedgeside, or darting between the trees, when it will drop on some unsuspecting bird, grabbing it in its needlelike talons and carrying it off before the victim is even aware danger is at hand. A favourite habit is to fly up a ditch, skim over the fence, and dash into a flock of small birds feeding on the farther side. With frantic cries the birds hurl themselves into the nearest shelter—all, that is, save one, for the hawk seldom makes a mistake, generally securing a meal and going off with one of the unfortunate finches. Apropos of this hawk's habit of flying along a hedge, there must be mentioned the episode of one that my brother and I chased in a car for quite a mile and a half. We were travelling up a long

straight piece of road, when I became aware of what looked like a dark grey shadow, skimming up the ditch, on the right-hand side of the road, about fifty yards ahead. It was evidently a big female sparrow hawk, and she was keeping the same distance ahead, though we were travelling at over twenty-five miles an hour. On opening the throttle the distance between car and hawk was decreased to about twenty yards, but nearer than that she would not let us get, and at thirty-five miles per hour she was maintaining her distance nicely. Unfortunately the road began to twist, and it was dangerous to drive fast round the corners, so we had to slacken down. She took the opportunity to turn up a by-lane, and we thought she had gone, but out she darted again, and continued up the roadside. After another quarter of a mile she went over the hedge and it seemed as if we had seen the last of her, but back into the road she came once more, and away she sped again before the car. It was a strange chase, but I do not think the hawk was alarmed, for had she been frightened she could so easily have made off; in fact, it appeared as if she was enjoying pitting her wings against the fast-moving object behind her. Just as we were wondering how much farther she would go she turned over the fence, and this time went right away, making for a little wood, where she disappeared among the trees.

Though fond of skimming along near the ground, the sparrow hawk will on occasion go aloft,

particularly in the spring, when on a fine calm morning soon after daybreak you may see it flying high in the air. This is usually over the wood where the nest is to be. Above this the mated birds will fly backwards and forwards, sailing round and round for an hour or more, but even then one can tell them from other hawks, the shape of their wings and tail serving to distinguish them; moreover, they never hang in the air on quivering wings like the kestrel. When you see a hawk hovering it is a certainty that it is the latter on the look-out for a mouse, for it does not chase its prey, but waits aloft until it sees something move, when it drops like a stone upon the vole or other small creature. Now the sparrow hawk is a hunter, it chases its victims, and when it goes aloft it is for pleasure, not business. The only time I have seen a sparrow hawk hang in the air for a moment was in the case of a tame trained female named Bessie. For some reason she was out of temper, and when I slipped her at a blackbird that had got up at my very feet she refused to chase it, flew away, and " took stand " in a tree. There she sat and sulked, regardless of all the tempting morsels with which I tried to get her down. She took no notice whatever of the good things offered on the fist, and even " the lure " (in this case a dead sparrow tied to a string) hardly made her turn her head, but when I left her alone and walked off a little distance she began to take an interest in some object on the ground. She peered down, then

moved along the branch, and I saw that she was preparing to drop on something. Down she darted, but just before reaching the ground stopped short, beat with her wings in the air, and hung hovering for a moment or two just like a kestrel; then, as a stoat darted out of the long grass, she glided away to some railings. This is the only time I have seen a sparrow hawk attempt to hover, and it was, in this one instance, brought about by the bird's sudden realization of the nature of the creature she had been about to attack. She evidently thought discretion the better part of valour, and she was undoubtedly right, for a hawk of this size would be no match for such a fierce little animal. One result of her effort was to restore her to good temper, and she then came to me as obediently as if she had never had the sulks.

Only those who have attempted to tame and train a sparrow hawk can realize what a nervous highly strung bird it is. In olden times, in the palmy days of falconry, every boy of good birth had to learn the art of training a hawk by "making" a sparrow hawk, or "spar-hawk" as it was then called. The modern name is a corruption of the old one, which meant the small or lesser hawk; in the same sense we still use the word "spare" to indicate lack of quantity or quality. This name was probably given because the spar-hawk was so much smaller than the gos-hawk, which was the only other short-winged hawk that was used in falconry. Somehow or other this very apt

name got converted into "sparrow" hawk, which is not nearly so suitable, for it is but seldom the owner kills sparrows, keeping, as a rule, away from the houses and buildings where sparrows are most numerous. This hawk is one of the wildest of wild creatures. "As wild as a hawk" has passed into a proverb, and when that saying was framed there can be no question that it was the sparrow hawk that was meant, for the spar-hawk has always been known to falconers as the most difficult of hawks to "man" and "make"—i.e. to tame and train. This is why it was regarded as the young man's hawk. In manning and making one of these little hawks the young falconer would have to exercise every art of what in those days was quite a science, and when, with infinite patience and skill, he had brought this wild termagant to tameness and docility, he was considered to be something of a falconer, and to be worthy to handle the noble peregrine or the handsome gos.

To one who only knows the sparrow hawk as a darting grey-brown shape slipping between the great trees of our woodlands, it will seem almost incredible that such a bird can be tamed and trained until she will come willingly from a long distance to her owner's hand in response to his call or whistle. Yet not only was this commonly done in the old days when every one practised hawking, but is still sometimes accomplished at the present day. Though at no time has the spar-hawk been a favourite, such an amount of time

and trouble being required to get her fit to fly; and, after all, she is not a big hawk, and can only by flown at comparatively small quarry, blackbirds giving the best sport. Besides, as already indicated, she is the most uncertain and capricious of creatures, being liable to fits of sulks and bad temper for the very slightest of reasons, or for no reason at all as far as we can understand.

Perhaps it was for this reason that when assigning to different persons the hawks considered most suitable for their station in life, the priest was allotted the sparrow hawk, possibly because patience being a priestly virtue he would have need to exercise it! The peregrine was the nobleman's hawk, the rare and beautiful ger-falcon was reserved for royalty, while the dainty merlin was the lady's hawk, but the poor man was only allowed the useless kestrel.

The principle involved in training the sparrow hawk, or any other hawk, is simple enough: it is to keep her always with people, and to carry her about on the gloved hand until she pays no attention to men, women, children, and dogs. Round her legs are fastened two small leather straps known as jesses, which are attached in a peculiar way that has been handed down from falconer to falconer through hundreds of years. A metal swivel is passed through the ends of these, and through the swivel a leash, which latter the falconer twists round his hand lest by any accident he should let it go. Thus held, the hawk cannot get away, which she at first tries hard to do, flapping off the fist

time after time, "bateing," as it is called, at every one who comes near. But in time she gets tired of bateing and learns that no harm is intended her. Meanwhile she is offered nice bits of meat, the falconer striving to make her understand that he is a friend, and that it is he who provides her with food. Soon she begins to eat on the hand, gradually her confidence is won, and she views mankind with less and less distrust The next step in her education is to encourage her to jump on to the fist for rewards of meat. At first she will only step up, but she soon learns to jump a foot or two, then to fly several yards, and at last there comes a day when she can be trusted free, flying back to her trainer's fist from a considerable distance, when of course she is well rewarded

By the way, the sparrow hawk is what was called in the old times a hawk of the fist, being taught to come back to the hand, and being flown straight from it at the quarry; unlike the long-winged hawks which are "made to the lure," i.e. taught to come to a lure dragged on the ground. Another difference in the training is that the latter are kept hooded a considerable part of their time, so that they may not be frightened and upset by passing things, but this is not customary with the short-winged hawks, which are generally carried bare-headed. But even with the sparrow hawk both hood and lure have their uses, especially the latter.

Of course the whole of a hawk's training turns on the matter of food. With a full crop she

does not care an atom for the falconer, but when hungry and "sharp-set" she is a different bird, returning obediently to his whistle for the meat she has learnt he will provide. Yet even the most perfectly "manned" and trained sparrow hawk is a bundle of nerves, and, as already remarked, liable to be upset by the slightest thing, bateing frantically at the sight of a strange dog, or taking stand in a tree and sulking there for an hour or more. But we will imagine that our spar-hawk is in a very good-temper, and that she is sitting keen and alert on the fist ready for a flight. Her leash and swivel have been taken off, and she is merely held by the short leather straps or jesses. In addition she carries a little bell tied to her leg, the purpose of which will be apparent presently. A friend, who has consented to act as beater, goes to the farther side of some thorn bushes that stand isolated in the midst of the meadow. If there is a blackbird in them, it will have to face the open, for there is no other shelter within three hundred yards. The hawk understands the business as well as we do; indeed, she is so keen that when the beater thumps the bushes and a bramble stem shakes she thinks it is a bird coming out, and casts herself from the hand, so that when a moment later one does come out she is hardly ready. By bateing at the quivering bramble she has spoilt her start. Away goes the blackbird, after it darts the hawk, flying across the meadow like an arrow shot from a bow, but the bad start has spoilt the flight, and with a shriek that ends in a chuckle

THE SPARROW HAWK.

Note the short wings, which should be compared with those of the Kestrel.

of triumph the blackbird hurls itself into the fence, having won the race by a good three yards. Into the hedge behind it dives the plucky sparhawk, and when, breathless with running, we arrive at the spot, the tinkle of the hawk's bell tells where she is. In her eagerness she has driven right into the middle of the fence. After some trouble she is got out, not a feather the worse for her experience, and then we try to beat the blackbird out, but he lies low among the rubbish in the hedge-bottom, being a wary old cock that knows when he is safe. In vain do we thump and poke, he is not to be dislodged; indeed, he has vanished completely, and at last we have to give it up. A move is then made for a field of mangolds, among which there are often plenty of birds. We walk slowly across them, one or two thrushes getting up a little way off, but it is useless to slip the hawk at them, as she would not have a reasonable chance. They have good starts, too good considering what an excellent flier the thrush is. Suddenly a blackbird gets up at my very feet, making off with a loud chuckle for the hedgerow. In the same instant the hawk is after him, but the distance is short—can she overtake him? With a piercing shriek the blackbird drops into the fence, but the hawk was upon him, and it was as a combined streak of black and brown that they disappeared into the undergrowth. Racing and tumbling over the roots, we run for the hedge, to be greeted on arrival by the ringing of the hawk's bell in the ditch. There she is, holding

the blackbird tight, an orange-billed old cock, from whose body she has already squeezed the breath, but not quite satisfied she gives another convulsive grip, which drives her needlelike talons yet farther into him. Very quietly and gently we approach, kneel down, and quietly offering the hand, pick her up, letting her feather and eat the quarry on the fist, for she deserves to be rewarded, having flown with real determination.

Tame and confiding as a hawk like this will become, yet if she be left alone for only a few days without society she will revert to all her original wildness. To keep her good-humoured and in flying order she must almost live on her owner's hand; if not, her wild instincts will quickly reassert themselves. Curiously enough, it is easier to tame and train an old wild-caught hawk than a young one taken from the nest. An eyass, to use the old term for a young hawk, has " manifold faults and follies."

Throughout these remarks on trained sparrow hawks the reader will have noticed that it has been the female which has been referred to; this was because the hen, as is usual with birds of prey, is so much the bigger and finer bird. She is almost twice the size of her mate, who, when compared with his large spouse, seems but an insignificant little fellow; however he is a handsome hawk in reality, being extremely smart in his plumage of brown tinted with grey. Falconers used to call him the " musket," and held him in but little esteem, for he could not attack such big

birds as the female, not having the size or weight to hold a partridge, a feat the hen is quite capable of if she chooses to exert herself, but when free to select her own quarry it is seldom she flies at anything so big. The fact of the matter is that hawks are lazy creatures; they merely kill what they want to eat, and no more than that. They seldom if ever hunt for sport, and generally take the easiest quarry that they come across, avoiding big strong birds unless circumstances are especially in their favour. I have seen a fine large female sparrow hawk go at a woodpigeon and take it, but this was in mid-winter, when there were not many small birds about, and she was evidently "sharp-set" and ready to attack anything. Under ordinary circumstances blackbirds are a favourite quarry, thrushes being far less frequently included in the menu, for the reason that the latter take a good deal more catching. I have known a spar-hawk that lived almost entirely on blackbirds. She haunted a certain dingle, and in the woodland rides I was continually finding those circles of feathers which marked where she had feasted. In her case the feathers were invariably black ones.

A sparrow hawk's meal is never consumed in haste; indeed, it is a matter of considerable ceremony, being a leisurely affair of many rites. First a good dining place has to be found, and if the ground does not offer a spot free of vegetation the victim will probably be carried to a flat-topped gate-post. Having found a place to her satisfaction, the hawk grasps the bird firmly with her feet,

holding it head first and never the reverse, and then begins to pluck it. With delicate precision and a surprising amount of strength she pulls out, one at a time, the firmly rooted wing-feathers. The tail she usually leaves until later on, taking next the soft body-feathers, which come away in beakfuls, until she is surrounded by a ring of them. At last the corpse is stripped, even the stout tail-feathers having been pulled out, and then she begins business in earnest, tearing the head from the body—that is, if she did not commence by doing so, because she is often in such a hurry for this delicacy that she does not wait to get all the plucking done before eating it. Holding the head in one foot, she breaks open the skull so as to get at the brains, which latter are the greatest treat. Having extracted all of them she can, and picked as much off the head as possible, and even eaten the eyes, she throws the beak away with a quick jerk. She then turns back to the body, picking the meat from the breast, legs, and back, taking care not to miss the smallest atom of meat or fat, especially the latter, of which she is very fond, but rejecting with disgust the greater part of the entrails. At last all the eatable portions are finished, and having looked round to see nothing has been missed, she proceeds to clean her feet and beak. She picks the bits of flesh and feather from her talons, then flies up to the branch of a tree, whereon she rubs her beak most vigorously so as to free it from all clinging remnants. She next puffs up her feathers and gives them a good

shaking, after which she retires to some sheltered spot, where, with one foot drawn up under her warm breast-feathers and her plumage fluffed out, she may rest and digest the meal in peace. Here she may stay for hours; for though the sparrow hawk can be wonderfully energetic, it is really a lazy bird, and when full fed and contented it will sit for hours motionless on some branch, apparently oblivious to what happens around it, yet those keen yellow eyes really take in all that passes beneath, and if any person comes within sight the hawk is gone like a flash.

It is very rarely one succeeds in surprising a sparrow hawk, for with those wonderful eyes it misses little that goes on; however, I once came upon a male engaged in bathing in a tiny woodland stream. The gurgling of the streamlet prevented him hearing me coming, and the hawk was so intent on splashing the water over himself, that he did not see me until I was comparatively close. When he became aware that he was being watched he rose with a startled splash and flew heavily off, flying very awkwardly, being handicapped by the wet state of his feathers, from which the water dripped as he went, falling like sparkling diamonds on the brookside herbage.

Sparrow hawks are exceedingly fond of bathing, washing regularly, when they soak their feathers through and through, after which they retire to some warm and sunny corner, where, with spread wings, and tail extended fan-wise, they dry the sodden plumage. A spar-hawk's toilet is a lengthy

affair. The bird preens with the greatest of care, drawing feather after feather through its beak, and dressing all until they are in perfect order. It is no wonder, considering the time and attention it gives to its plumage, that it is always one of the smartest of birds.

This hawk's liking for a warm and sheltered spot has already been alluded to, which preference influences its choice of a nesting site. Most of the nests I have met with have been situated in some tall tree in a well-wooded dingle where the winds do not readily penetrate. Here, at a considerable height from the ground, where a bough or two branch out from the trunk of the tree, a platform of small sticks and twigs is made during April. But the nesting site was decided on much earlier than this, mating taking place at the end of February, when the pair choose their territory, after which, on fine mornings, one can see them sailing backwards and forwards over their own particular wood. As soon as nest building has begun the hen gives up this amusement, but the cock may still indulge in it. In my experience it is usual for an entirely new nest to be made, but it is asserted by many writers that the sparrow hawk prefers to do up a previous season's nest. However, I have only met with two instances; in the one case the last year's nest was used again, and in the second a six-year-old nest that had nearly fallen to pieces was repaired late in the season and utilized for a small clutch of three eggs. In the latter case there was little

doubt that the hawk had been robbed of her first nest with part of the clutch, so hurriedly repaired this old nest and laid the rest of her eggs in it.

By the way, it is also stated that the sparrow hawk does not breed until two years old, but it is a point that is difficult to prove. I can only say that I turned a trained female loose in a certain wood and that a hawk, which appeared to be the same, remained in it, mated, and made a nest the following spring, when, if it *was* my bird, she would be only twelve months old. One thing that made me believe it was my hawk was that she killed only blackbirds, which was the quarry that mine had been flown at.

The eggs are laid about the middle of May, and number from five to seven, six being the usual clutch. They are very handsome, being white, heavily blotched with brown. They vary somewhat, and often the last one will not be so well marked as the earlier laid eggs. The old bird begins to sit before the last of the clutch are laid, when she betrays her presence in a peculiar way. As soon as incubation has begun she sheds the soft down from beneath her feathers, many bits of which are sure to decorate not only the nest, but also the branches near at hand, so even from the ground one can tell when she has begun to sit. Though the cock takes no part in the sitting, he is a devoted mate, bringing his spouse food, and generally dancing attendance on her, so that she has no need to hunt for herself; indeed,

she does but little killing until the young are a fair size. One thing she always does is to break up all the carcasses, and portion them out, a duty never undertaken by the male; indeed, should any accident befall the hen while the nestlings are too young to tear up their own food they are almost certain to starve. They will die from want in the midst of plenty, as their father, though continuing to bring all the birds required, will merely deposit them on the edge of the nest, and never dream of tearing them to pieces.[1]

The young when first hatched are quaint little atoms clad in white down, and often differ considerably in size, owing not only to the differences between the sexes, but to some being older than the others. The fact of the old bird beginning to sit before her clutch is complete, makes a considerable difference between the hatching of the first and last eggs, especially as they are usually laid at intervals of every other day.

The old hawk is a most devoted mother, brooding and tending the young with the greatest care. At first she cleans the nest, but as the nestlings get stronger they void their excrement over the side of the platform, by which means the covert undergrowth gets plentifully splashed with "whitewash" for some distance around the nest. This often betrays the family to the passing keeper, who deals with the situation by putting a charge of shot through the bottom of the nest!

[1] J. H. Owen, in *British Birds*, vol. x, p. 56.

It must be admitted that from the man's point of view there is justification for his action, as his living depends on rearing pheasants, and when a sparrow hawk, heavily burdened with family cares, comes across pheasant chicks in a rearing field, it will not only dash in and carry off one or two, but will return day after day. In the same way it will sometimes raid a brood of chickens in the farmyard. Under such circumstances the hawk will show a degree of boldness completely at variance with its character on other occasions, swooping in on the chicken while people are standing by, and appearing indifferent to their presence.

There are times when the sparrow hawk is as recklessly bold as it is usually timid and retiring. When in pursuit of a bird it will be deaf and blind to everything but the quarry before it, and there have been many cases of a hawk following its prey into outbuildings and even into houses; nor is it by any means uncommon for the sparrow hawk to attack caged birds, such as canaries and goldfinches, when they are put out of doors, say on a cottage wall.

Undoubtedly this hawk has wonderful eyesight, yet sometimes when intent on its business it does not notice the most obvious things. For instance, my brother was standing in a gateway, when he saw a sparrow hawk flying down the hedgeside towards him, when he instinctively and without thinking threw up his hand as if to catch a ball, and caught the bird instead!

He was too startled to hold it, and it dashed off again in a great flurry and hurry. He said he did not know which was the more astonished, he or the bird!

To go back to the young birds in the nest, they grow rapidly, and are soon able to sit up, but it is some time before they can balance on their long thin legs. To begin with their eyes are a watery grey-green, only becoming yellow when they are full fledged. The colour of the irides deepens with age, becoming a beautiful orange in old hawks. As their strength develops the eyasses begin to tear up food for themselves, and about the same time brown feathers begin to peep through the white down, when the family will vary much in appearance the eldest female being a week or more ahead of the youngest male. The latter is often much behind the others, but I have never known him get "lost," as so often happens to the weakly member of an owl family. In the latter case I fear the word "lost" covers an ugly murder by the stronger members of the party.

Young sparrow hawks grow at a great pace, but it is about a month before they are able to leave the nest and venture out upon the surrounding branches; even then they do not leave the nest for good, still using it as head-quarters and as a dining-table. It is to the old platform that their hard-working little father brings his contributions, and to which their mother also fetches food, calling them to

YOUNG SPARROW HAWK AT THE AGE WHEN THEY LEAVE THE NEST TO PERCH ON THE BRANCHES NEAR IT.

the feast with a peculiar sharp cry. Though sparrow hawks have various calls, including a loud scream and a chattering cry, they are not really noisy birds, and one does not hear them nearly so often as the kestrel, which is much more talkative. But, while the young are still in the neighbourhood of the nest, they do scream to some extent, probably to let their parents know where they are, which often betrays them to their enemy with the gun.

As they get stronger on the wing they also get more independent; the impulse to chase small birds develops, at first it is merely play, but there comes a day when they kill for themselves, after which they cease to resort to the old nest. They are now independent of their parents, yet for a little while they remain in their company about the home wood, until the autumn migration fever seizes them, as it does so many other birds, when they join the hosts that are moving South and cross to the Continent for the winter. The old birds, I believe, do not go with them, but stop at home; at any rate one sees sparrow hawks about the same haunts all winter which do not look like birds of the year. In the spring the young birds return, and such is the havoc wrought by the keeper's gun that they can usually find plenty of unoccupied territory in which to settle down.

Though it cannot be gainsaid that the sparrow hawk kills great numbers of birds, including young game-birds, yet the wholesale destruction

of this hawk and other birds of prey by game preservers is, in my opinion, a mistake, as these species have their place in the economy of Nature, helping to keep down the numbers of the smaller birds, such as the blackbird, and preventing their undue increase, which, as fruit growers are only too well aware, is a serious matter in certain districts.

(*The Sparrow Hawk*, Accipiter nisus, *Linn., is generally distributed throughout Europe, and shows little variation on the Continent or in this country, so there is no need to mention sub-species.*)

CHAPTER VIII

THE KESTREL

WE must now turn to that second woodland hawk to which reference was made in the previous chapter, namely the kestrel. It is a dainty bird, with the kittenish expression, large dark eyes, and long wings of the true falcons; indeed, it is a miniature falcon, though without the dash and courage that distinguishes its noble relatives. As has already been pointed out, many people, who know little of hawks, confuse it with the sparrow hawk, though there is no reason why they should, for the two birds are not in the least alike, belonging as they do to two distinct types, the sparrow hawk being a short-winged hawk, whereas the kestrel is a long-winged one. Even in flight they are quite dissimilar. The sparrow hawk glides by close to the ground, the kestrel hovers high over woodland and meadow.

If you see a dark speck in the sky, which closer attention shows to be a bird poised against the wind, you may be sure it is a kestrel, for no other small hawk has discovered the art of

maintaining the same position in the air for many minutes at a time. With depressed and outspread tail, with vibrating wings, it hovers there, not moving an inch either backwards or forwards, and reminding one of a child's kite fluttering on the breeze. Suddenly, as if the kite's string had been relaxed, it drifts sideways, gliding off a few yards, then stops, and again hovers on outstretched wings. Time after time will this be repeated, the kestrel scanning each inch of the ground below, and watching for any sign of life, for any movement in tussocks and grass tufts that may betray the whereabouts of a mouse; for, though so far above, its wonderful eyes will instantly detect anything that stirs, especially a meadow vole running along one of its tunnels between the grass stems, when woe to that mouse which has been so incautious as to show itself! No kite of which the string has been cut would descend so swiftly to earth, for the kestrel closes its wings and drops like a stone, falling on the unsuspecting vole like, literally, a "bolt from the blue." The mouse is gripped and carried away before it has time to realize what has happened; before it was even aware that danger was at hand.

Here we find yet another difference between our two common hawks, for the kestrel is a great mouse-hunter, whereas the sparrow hawk never touches fur, but prefers feathers. The number of voles and mice that kestrels destroy in this country in the course of a year must be simply

astonishing, for nearly every wood is tenanted by a pair or more of these hawks, and each bird kills three or four mice per day, which number is much increased when there are young ones to be fed, so that in the course of twelve months its bag becomes a big one. If the average was as low as two mice per day—and I am sure it would be more—each kestrel would account for seven hundred and thirty mice per year, while if it were three each day we should have to place considerably over a thousand per annum to every kestrel's credit. Even this latter figure is by no means a generous one, and I should not be surprised if, in fact, it was not greatly exceeded.

Though the kestrel loves the shelter of the trees, and you seldom come across a wood that is not the home of one or more pairs, yet this hawk does not despise the open country, ranging out over the moors and the desolate hill-sides, where, no other site being available, it will nest on a ledge in the face of a crag. It is, in fact, an adaptable bird, and when circumstances compel, i.e. when no better place can be found, it will even lay its eggs upon the ground; for instance, in the Outer Hebrides, where there are no trees, it resorts to the little islands in the lochs and makes its nest among the heather.

It is no doubt this adaptability which helps the kestrel to be so common, for it is found throughout the country, but it is in wooded districts that it is most plentiful and where it

appears most at home. As said before, nearly every covert shelters a pair or more, whose lively chatter we may hear in the early spring, and again when the young ones are on the wing.

Having got thus far in my account of the kestrel, some description is necessary of its appearance. I have said it is dark-eyed, and in each sex there is a dark mark down the side of the face. In the old male the upper parts are a deep chestnut spotted and barred with black, by contrast with which his grey head and tail appear quite blue. His tail has a broad band of black at the extremity, and is tipped with white. His under-parts are creamy white varying to buff, the breast being streaked with brown-black, so that he is a beautiful, not to say very showy, little hawk, but of course, as is usual with birds of prey, he is much inferior in point of size to his mate, being quite a third less in every respect. Yet what she gains in size she loses in the matter of gay plumage, being much more soberly clad. She has not the grey head and tail, the latter in her case being reddish, though with a tinge of grey towards the end, and it is barred with black throughout its length, but in general respects her markings are like his. The young up to their first moult resemble the hen, the young cocks only acquiring the grey head and blue-grey tail in their second summer.

The male bird is certainly a gay little gentleman, and when he bows and scrapes in the antics of courtship is particularly taking. He begins

THE KESTREL. JIM ON THE FIST.

Note the length of his wings, which should be compared with those of the Sparrow Hawk, as shown in the photograph facing p. 144.

to look for a mate early in the year, when we may hear the lively chatter of the suitors, as they pay court to the ladies, and conduct their love affairs among the trees. As a rule pairing takes place in the neighbourhood where they mean to settle, when the happy couple drive off all other kestrels and keep their territory to themselves. During March, or at the beginning of April, the question of a nest crops up for consideration, but the kestrel is a lazy bird, and prefers to make use of a ready-made one to building for itself. An old sparrow hawk's nest, a flattened-out squirrel's drey, or a disused crow's nest meet its requirements to a nicety. For situation it prefers a tall spruce, by reason of its heavy evergreen foliage giving more shade and shelter than anything else. If you want to discover a kestrel's nest keep watch in the woods where there are a few tall old firs, and sooner or later you will hear the chattering cry of these talkative little hawks, or see one come gliding overhead, perhaps to take perch on a projecting bough, when you can note what a dainty sprite it is, its reddish plumage showing up against the heavy dark green needles of the fir trees.

Yet, even when you have located the spot where the kestrels have established themselves, you have still to discover which nest they are occupying, for old spruces like these are usually made good use of, and high up against their tall red trunks will be seen various bundles of twigs, some bigger, some smaller, being the nests,

old and new, of hawks, squirrels, and wood-pigeons, when the question is, which are the kestrels using ? Sometimes there will be a feather, a scrap of down, or some other slight indication which will betray the occupied nest, but more often you have to climb up and look into several nests before you find which one the birds have taken possession of. Up in the higher stories of the woodland world, whence you look down into a sea of greenery, in which hazel bushes, brambles, ferns, and the moss-covered soil become merged in one another, you will come to a platform of twigs with a slight central depression, wherein rest half a dozen rich red eggs. On close examination it will be seen that the eggs are a light red-brown heavily blotched with dark brown, but they vary much, some being merely speckled with the darker colour ; however, the general colour scheme is always adhered to, and they give one at a casual glance the idea of being a somewhat dark rich brick-red in tint.

Six is the average clutch, more or less being unusual. How far the ready-made nest is altered, added to, or repaired, I am unable to say, but my opinion is that very little is done, for one cannot find any signs of it, and when these birds nest, as they do now and again, in a hollow tree, you find the eggs resting on the wood chips and crumbled rubbish that one always meets with in old hollow trees. Moreover, when, in the open country, they resort to a ledge in a crag or on a cliff, they waste little time in building. After

but slight preparation of the site the hen proceeds to her egg laying. As is the case with so many other birds, she begins incubation before the last one is laid, sometimes commencing to sit when there are only two or three in the nest, so the first young one hatches days ahead of the last.

The nestlings are queer little mites clad in greyish-white down, and are at first very weak and helpless, but their mother most carefully breaks up the food brought in by the cock and feeds them on tiny bits of it. They soon wax strong and are able to sit up and tear their own meat to pieces, but the parents continue to be most attentive to them, and whatever may be the kestrel's character in other respects, it shows no idleness or laziness when food is needed for its family, but hunts for the nestlings most untiringly. The old birds feel the strain the greatest when the young are nearly full grown and full fledged, for they then have tremendous appetites, and are continually in want of food. It is then that a kestrel may become somewhat less particular what it takes, and young thrushes, blackbirds, etc., may find their way to that platform of twigs in the tall old spruce where those five or six youngsters gaze down at the wide world below them.

It is said above that they get more and more voracious as their feathers appear, and it is wonderful how quickly their plumage comes. The tips of the flight feather appear first, then

some brown tufts peep out amid the white down of the back and breast; meanwhile they flap their little wings and practise for the day when they will be strong enough, and bold enough, to hop out of the nest on to some of the nearer branches. The fact that the young hawks growing feathers are free from "hunger traces" shows how well their parents keep them supplied, and that they have never been allowed to go short of food, for when the feathers of young birds are coming down rapidly a fast is recorded in a most unmistakable fashion, namely by transparent lines across the webbing of the feathers, particularly those of the tail and wings. If you did not know that these markings were hunger traces, you might suppose a knife had been drawn across the feathers, but they are caused by the check that the growing feathers receive when the nestling has to go without food.

As soon as they are fully feathered the eyasses (to use the old-fashioned term for young hawks) become restless, and an adventurous spirit develops among them; they are no longer content to look over the edge of their platform of twigs, but scramble about the nest, until one, bolder than its fellows, hops out on to one of the nearer boughs. After this they perch about on the branches, but keep near home, so as not to miss their parents when they return with provisions. Up to this point in their development their tail-feathers have not grown so much as the rest of their plumage, but once they reach the

stage of sitting out on the branches their tails come down rapidly, so that the feathers are soon as long as those of their parents. It appears to be a provision of Nature to do away with the nuisance that a long tail would be in the nest, where the feathers would get soiled and bent, if not broken beyond recovery.

For some weeks after they have left the nest the old birds continue to supply the eyasses with food, the youngsters crying and screaming most piteously if their parents get at all behind with the meals. It is just at this time in their careers that you may sometimes see four or five kestrels together, flying to and fro over the trees and playing in the air. Their aerial gambols are a very pretty sight, for the hawks float round and round, turning and twisting, and driving at one another as if in mimic combat. I imagine that, however playful these games may appear, there is a serious purpose behind them, namely practise for the young ones in the use of their wings, though they fly so well that you would not think they need it. However, they do many tricks, side-slipping, vol-planeing, etc., as if to the manner born, only drawing the line at " looping the loop." The one bird that I have seen attempt something approaching the latter feat was an old cock raven, whose mate was sitting on her nest in a Westmorland crag, while he patrolled round about and kept an eye on the country-side. His chief beat was to and fro along the face of the crag, and apparently he got very

tired of doing "sentry go," for as I watched he began playing antics in the air. He made steep dives, flew up again, and then with a queer little cry flung himself sideways, so that he turned over on his back, in which position he glided for a moment before righting himself and flying on to repeat the trick a few yards beyond. After side-rolling some half-dozen times he gave a harsh croak and resumed his flight backwards and forwards, going first one way and then the other like a policeman on his beat.

The kestrel's exhibition, though charming to watch, cannot show any sensational feats to equal that of the old raven. All the same, this hawk is an expert on the wing, as its everyday performance of hanging stationary in the air shows. A noticeable peculiarity of this, and some other hawks, is that when flying to a perch it does not go straight to the bough, but approaches from below it, shoots up into the air, and then drops on to the branch.

Like most birds of prey, the innocent kestrel often comes to grief at the gamekeeper's hands, or rather gun, and one will find it hanging from his gibbet, in company with crows, sparrow hawks, magpies, and other creatures that he has much more justification for killing. But many enlightened keepers now realize that in this small hawk they have an ally, not a foe, and spare it accordingly, for, as already indicated, mice form the greater part of its diet, particularly meadow voles, and next long-tailed mice and bank voles.

It will also eat insects, especially beetles, and in the early mornings, when the worms are up on the surface, is not above an easily gathered meal of them. Its method of mouse hunting has already been described, how it hovers forty or fifty feet above the ground waiting and watching for a vole to move in the grass below, and then drops upon it; but sometimes, if a small bird appears beneath, offering it an easy capture, it will drop on that instead. It certainly does not go out of its way to look for birds; at any rate as a rule. I say "as a rule" because everything has its exceptions, and in all species you will find now and again an individual that does not behave like the rest of its kind, so, once in a while, you may meet with a kestrel that drops on birds, not by accident, but by intention; but in these instances the old saying, that "exceptions prove the rule," should not be forgotten, in this case "the rule" being that the kestrel is chiefly a mouse-slayer, supplementing this diet with insects and grubs. Dr. Collinge estimates that from our point of view 64·5 per cent. of the food of this bird is directly beneficial, 29·5 per cent. neutral, and 6 per cent. injurious.[1] But, as the only injury a kestrel does us is when an exceptional one attacks young pheasants, partridges, or chickens, I think even 6 per cent. is too high an estimate. I must add that I have never known a kestrel take a chicken, accusations of doing so always turning out to

[1] Witherby's *Handbook of British Birds*, p. 124.

be due to confusion with a raiding sparrow hawk.

As in its nest building, or rather in its neglect to build a nest, so in its hunting, the kestrel is a lazy bird, and if it does not succeed in capturing its quarry when it drops upon it, rarely exerts itself to chase it, which is, I believe, the reason it seldom takes winged quarry. It is only an exceptional kestrel which has the energy to indulge in a chase, though with its long pointed wings it should have speed enough to overtake anything within reason. In shape and build it is not unlike its relative the hobby, an uncommon and most beautiful little hawk, which is very quick on the wing, flying so rapidly indeed that it has been known to overtake a swift in fair chase![1]

It was owing to its lazy temperament that the kestrel was so despised in the times when the training of hawks was a fine art, for not even the experts of Tudor and Elizabethan days could make anything of this easygoing bird, so it was known as the poor man's hawk, for no one who could afford anything better would trouble with such a useless creature. Yet this very easy-going disposition makes the kestrel a delightful pet, as it soon becomes perfectly tame; indeed, a more confiding creature it would be difficult to find—that is, as soon as it has got over its first fright at finding itself near human beings. As an instance take the case of an old female that

[1] The Rev. J. G. Cornish, *Wild Life*, vol. vii, p. 12.

TRAINED KESTREL ON A BOW PERCH.

A PORTRAIT OF JIM.

was found in a village street after a thunderstorm. Her feathers were so soaked she could not get upon the wing. At first it seemed as if she must have flown into the telegraph wires and hurt herself, but there was not the slightest trace of injury, and the next day she was quite all right, so that the only conclusion possible was that the downpour had wetted her to such an extent as to make her quite helpless. Just to see what could be done with an old, wild-caught kestrel, I kept her for a little while. By the end of the first day she was eating freely on the fist, she jumped to it for food the second, the third she came quite eagerly, and before the week was out she would come any reasonable distance to either fist or lure. Yet she saw comparatively little of me; I could give but little time to carrying her about, and the amount of attention she got would not have kept a sparrow hawk half tame, let alone reclaimed it from wildness. It shows what a difference there is in the temperament of the two species.

This mention of a tame kestrel reminds me to say, for the benefit of anyone who may wish to handle live specimens of either of our two common hawks, that their modes of defence are quite different. The sparrow hawk when annoyed and on the defensive uses its feet, striking most viciously with them, but never biting or making any use of its beak; the kestrel does exactly the reverse, biting like a parrot, but not employing its feet.

To go back to the tame kestrel mentioned above, at the end of three weeks I decided she had enjoyed my hospitality long enough, especially as she refused to show any sport, and if thrown off the fist in pursuit of a bird simply flew in the opposite direction. So, as she had quite got over her adventure in the village, she was given an extra good feed, her jesses (little leather straps round the legs) were cut off, and she was left free to do what she pleased, but she was in no hurry to be gone, and sat for some time on a tree-top, but at last a wild kestrel passed over, whereupon she flew off towards the woods and was never seen again.

This mention of a wild kestrel reminds me of the visits a former kestrel used to have from others of its kind. It and two sparrow hawks used to sit out on their perches on the lawn, the kestrel on a block and the sparrow hawks on their bow-perches, and one day I was startled to hear a loud chattering in the garden. On going to see what was the matter I found a wild kestrel was perched on one of the trees at the edge of the lawn, and appeared to be doing its best to attract the tame kestrel's attention, but Jim, as he was called, took no notice, so the stranger swooped down and flew across the lawn just over his head. At this Jim did look up, but still did not seem much interested. Again and again the visitor swept backwards and forwards, until it unfortunately caught a glimpse of me and flew away. The next day I again heard the

chattering, and this time found there were two strange hawks visiting the trained ones, or rather visiting Jim, for they paid no attention to the sparrow hawks, and looked only at their relative. First one came down, and then the other, and advanced with fluffed-out feathers, and tails spread fan-wise, to where he sat on his perch. I was too far off to see for certain what they were, but thought it was an old hen and a cock in the first year's plumage. For several minutes they continued to chatter and scold, looking very quaint as they ran about on their little short legs. But, except for screaming in answer once or twice, Jim took little notice of them, so that I was totally unprepared for the next episode. The bigger bird suddenly went straight at James, knocked him head over heels off his perch, and proceeded to punish him severely. It was so unlooked for, and so unwarranted, that though Jim appeared to be doing his best to give as good as he got, I rushed up and drove the strangers off. They came several times afterwards, but I did not see them attempt to attack him again.

In concluding this chapter I would say to those who have control of woods and shootings, Do not let your kestrels be destroyed; they will do you little if any harm, but much good, and if you love wild nature will reward you with many a charming sight.

(*The kestrel*, Falco tinnunculus, *Linn., is a widely distributed species, ranging throughout Europe,*

North Africa, and the greater part of Asia. The form we meet with in Britain is regarded as the same as that found on the Continent, so it will not be necessary to consider its sub-specific status. A smaller, quite distinct, but allied species, that has occurred rarely in Britain (eleven times in all) is the Lesser Kestrel, Falco naumanni, *Fleisch, which is a native of the Mediterranean countries.*)

CHAPTER IX

THE COMMON RABBIT

AS every covert has its population of rabbits, a chapter must be spared for this commonplace little animal. We all know its prick ears, grey-brown form, and bobbing white tail; yet there are many interesting points about it. To begin with, it is not a native of these islands, but has been introduced, like the pheasant, within historic times. At first the fact seems almost incredible: we can hardly realize that the rabbit which is to be met with everywhere, the creature which dwells in all parts of the country, in the woods, hedgerows, and meadows, is really a newcomer, a stranger in our midst, and an alien like the red-legged partridge or the little owl! Yet this is so: once upon a time there were no rabbits to worry the primitive farmers, no white tails went bobbing across the country, and the fox and the stoat of those days must have had a very different "bill of fare" from that on which they now live. Perhaps it was the hare to which they devoted their attention. But the rabbit is now firmly established, it is part and parcel

of the life of our country-side; yet, as already said, there is no reason to believe it was known here prior to Norman times; we have no names for it of either English or Celtic origin, the words "rabbit" and "cony" being both derived from the French.[1] It is not alluded to in pre-Norman MSS., and the earliest remains that have been found were some bones in the rubbish heap of Rayleigh Castle, Essex, which was occupied from the beginning of the eleventh to the end of the thirteenth century. A closely allied but slightly different rabbit lived here in pre-Glacial times, the bones of which have been discovered in some of those deposits which have yielded such quantities of remains, but it seems to have been completely exterminated when the great ice sheet crept across the whole of North Europe. The evidence points to our present-day rabbit having come from Spain, where rabbits were known in the earliest times, and having gradually spread hence across the rest of the Continent.[2] How it got into the British Isles is another matter, but probably some sporting nobleman of Norman times introduced it to provide sport on his English estate. Even yet it is extending its range, for records show that it is now plentiful in many parts of Scotland, where a few years ago it was not to be met with.

In this country, where we have several carnivorous animals perfectly competent to keep

[1] Barrett-Hamilton, *A History of British Mammals*, p. 177.
[2] *Ibid.*, p. 185.

its numbers down, the rabbit has never been a serious nuisance, though it certainly does a good deal of harm in some districts, what with eating the young grain, barking small trees, etc., but we have all heard the result that attended its introduction into Australia! There it increased so rapidly in the dry, favourable climate that it became a perfect plague. Happily our more humid conditions prevent "all the year round" breeding; besides, we have plenty of foxes, stoats, cats, and badgers to lend willing assistance in keeping it down. It is a strong point in favour of the badger that it often digs out and devours young rabbits, and should form an additional reason for protecting this much-persecuted animal.

In southern Shropshire we have plenty of badgers, and their assistance in keeping the rabbits within reasonable limits is invaluable. In the spring time, when the old doe rabbits begin house-hunting, the badgers rouse themselves to activity (though they do not actually hibernate, they lie up a good deal during bad weather), and coming forth from their fastnesses search far and wide for food. They range through the woods and over the fields, their broad pad-marks being found many miles from the nearest sett, and with their wonderfully keen noses they discover a great number of the early nests. It matters not how carefully the doe has covered the young ones up in their snug nest of wool from her own body, nor how she has scratched the earth that was drawn from the hole back into its mouth, the

badger will not be deceived. It knows quite well that the neatly padded-down soil indicates a burrow with young ones in it. Its first proceeding on finding such a sealed-up hole is to scratch away the earth lying in and over the mouth, so as to be sure of the direction in which the tunnel goes; its second, to nose round on the surface until it locates the exact spot under which the little rabbits are lying. So keen is its sense of smell that it will locate them through a couple of feet of soil. Unless the badger is interrupted in its task, which is not likely, for the rest of the night creatures fear and respect the power of its jaw, the poor young things are doomed; for, to an animal which is such a powerful digger, a couple of feet of earth is a trifle which is soon scraped away. The poor little rabbits have then but short-shrift: a few crunches of the badger's powerful jaws and they are gone! The bright light of the rising sun will shine on a hole sunk like a shaft straight down into the soil, on a collection of grass and soft rabbit fur in the bottom, on a few broad pad-marks on the damp earth, and the scratches made by powerful claws on the sides of the hole. This is all that will be left to tell the tale of what passed in the night.

The fox likewise accounts for a great many young rabbits; indeed, it is the rabbit's greatest foe, for it persecutes it at all ages, from the naked young in their underground nursery to the period, if it is ever reached, when old age begins to dull

the senses. With the little ones he adopts the tactics of the badger, but the full-grown rabbits he stalks with catlike cunning. It requires a good deal of experience and wood-craft to tell whether it was a fox or a badger that excavated a nest. If there are tracks to be found, the matter is comparatively easy, for, as explained in the chapters devoted to these two animals, the fox has a small, neat, narrow pad, while the badger leaves a much bigger impression, almost as large as that of a big dog, and much broader in proportion; but as regards the hole itself the main difference lies in the greater size and breadth of that dug by the badger.

In the early spring the female rabbits leave the big burrows in the woods and hedgerows where they have lived during the winter, and proceed to excavate nurseries out of the way of the other rabbits. It is usually said that they do so for fear the old bucks should kill the young ones, but as later in the season many litters are successfully reared in the big burrows, this hardly seems a sufficient reason. But at any rate such is the custom. Somewhere at a distance from headquarters a hole is scratched out, from two and a half to three feet in length, and at the end of it the old rabbit prepares a warm bed. First she collects mouthfuls of grass, until she has quite a quantity piled up in the hole, then she robs herself that the nest may be lined with the softest wool. She strips the fur from her flanks and under-parts that the little ones may

lack nothing in comfort; indeed, their bed is the softest and most cosy that could be imagined, for being born naked, blind, and helpless, they need to be kept warm and dry.

Twice I have had the pleasure of watching a doe at work gathering materials for the nest. Once it was a rabbit that had invaded the garden. I spied her when she was quietly nibbling the even turf of the lawn, and, as my eye lit on her brown shape, I thought what trouble there was in store for her, as rabbits were not appreciated in the garden. However, I did not disturb her, but waited and watched. In a few seconds she stopped eating, sat up, and looked round, but did not see me, and proceeded to wash her face. She did it in just the same manner as a cat, passing each paw rapidly over her nose, licking them between each wipe, and then rubbing them behind the ears and bringing them again down over the nose. Then she pulled her ears down, next twisted round and licked her sides, after which she shook her fore-feet and hopped away towards a shrub, round the stem of which the grass had managed to escape the lawn mower. She sniffed about for a moment, then proceeded to gather a mouthful of the deadest and dryest grass she could find, and after she had got as much as she could carry, hopped off with it towards a little plantation of trees and shrubs. In a minute or two she came hopping back, gathered another mouthful, and disappeared again. Thus she made several journeys and one or two of the

YOUNG RABBIT. LISTENING!

mouthfuls she took contained leaves as well as grass. At last she returned to eat, first shaking her fore-feet and flipping her hind, as if pleased at getting the nest making done.

On hunting the plantation I found her nest, a newly scratched-out hole, the mouth of which was littered with freshly gathered bits of grass. The next morning the tunnel was sealed up; the soil had been scratched back over the entrance and firmly padded down so as to block it up. Evidently the family had arrived, and one could picture the wee pink mites lying at the end of that dark hole warmly wrapped up in their blanket of fur and grass. I also pictured the damage they would do by and by in the garden! But as I was leaving the plantation something bright caught my attention. It was the eye of a rabbit, which was sitting hidden in its form—or, as the country people call it, its "squat"—under a thick brier bush. It was undoubtedly the doe. She was practically invisible, for a rabbit's coat blends so perfectly with its surroundings that it is almost impossible to distinguish it from the soil, the dead undergrowth, and the shadows thrown by the foliage. I left her in peace and told no tales. Some six weeks after there were great complaints of the mischief rabbits were doing in the kitchen-garden!

The doe rabbit never lies with her family, but invariably leaves them safely shut into their hole while she retreats to a distance, spending the greater part of the day motionless in a form, where

she waits for the waning light of evening before she revisits them. Probably it is safer to leave them alone as much as possible, as too frequent visits would be apt to betray them to the numerous creatures that slay young rabbits.

It is often asserted that the old rabbit will not tolerate any interference with her litter, that if the nest be opened, if the little ones are touched, or if they are in any way disturbed, she will either desert them or destroy them, but I can vouch for there being exceptions to this rule—if rule it be, which I doubt. On one occasion I thought I would see if a pet cat would rear some little rabbits with her kittens, so sought for a nest from which to get some suitable youngsters. A sealed hole was found and opened. It contained little rabbits that were the right size for my purpose—they were well covered with fur and their eyes were just open; so I took two of them, and replaced the soil as neatly as possible. A visit next day showed the nest had been opened and closed in the night by the old rabbit, and when I again opened the nest several days later the family were perfectly well and very much grown. The removal of yet another did not prevent the doe returning to the remainder.

Those that were handed over to the care of the cat also flourished, at least until their careers were brought to an untimely close. She was induced to adopt them in the following way: some of the kittens were taken away, and the rabbits substituted for them. This was done while the

cat was out of the way. When she came in from a walk round the garden she must have been greatly puzzled at the change which had taken place in her kittens—there were now only two black and white ones, the others having become a greyish brown; but after a little hesitation she seemed to conclude the mistake had been on her side, so got into the basket, lay down, and cuddled them all up to her. A minute or two later she began to wash the strange "kittens." It was then certain all would be well.

Now occurred a most unexpected development. Another cat, "Old Puss" (this is the one that reared "Whiskers" the rat [1]), who had had kittens at the same time, and whose family had been reduced to one, took a fancy to the mixed family, carried her only kitten to the basket, and established herself as foster-mother to them. When discovered they were all lying together, the two old cats, their three kittens, and the two little rabbits, to which I added a third young rabbit to make the numbers equal. This strange family flourished greatly, and I tried to get some photographs of them all together, but more troublesome creatures were never put before a camera. They had to be taken out on to the lawn on account of the light, where they kept running first in one direction and then in another. The two parents were no better, as they ran after the truants. It was a curious sight to see a small rabbit hopping away over the grass with an

[1] See my book *Wild Creatures of Garden and Hedgerow.*

anxious cat in pursuit. Once the younger cat tried to pick up a runaway rabbit and bring it back by the scruff of the neck, as she would have done with a kitten, but the rabbit did not understand, and kicked so much she had to drop it. Such experiments on the cat's part always made me anxious, as I was afraid that she might one day find out what manner of animal she really had to do with. To make matters worse, both the cats were inveterate poachers who had slain many rabbits. However, I at length got some photographs taken without any mishap having occurred, but in hardly any is the group complete, as it was so exceedingly difficult to get them all into the picture; a rabbit or a kitten was sure to dodge out of sight just as one was going to press the shutter release, for they were on the run the whole time.

As the rabbits grew older they became very sweet little creatures, and were perfectly tame. They and the kittens throve and flourished, they all played together, and seemed the best of good comrades. People who had talked about the cats "having rabbits for supper" forgot their remarks, and only said, "How wonderful!" However, I did begin to get a little uneasy when I saw the kittens having "rough and tumbles" with the rabbits, especially as the former were getting quite big; still, the hint was not taken, nor the coming tragedy anticipated. One morning on coming downstairs I found the two old cats in a frantic state; they were mewing most

THE "HAPPY FAMILY."

It consisted of three young rabbits, three kittens, and the two cats that had adopted the rabbits; but only one cat, three kittens, and two rabbits could be got before the camera at one and the same time.

piteously, so that I could not think what was the matter. On looking about, the reason was only too apparent—the young rabbits were lying dead! They had been killed by their foster brother and sisters—and everybody said, "What else did you expect!"

It seems strange that one of the worst enemies of the rabbit—for a poaching cat is a demon—should so easily have been made to nurse and bring up the young of what would appear to be her natural foe; yet really it is by no means difficult to get cats to adopt young rabbits. I have had three instances, and have known of others.

Poaching Puss must certainly take rank as a factor in keeping down the number of our rabbits, especially in the spring and summer time when there are countless young ones running about, but the elder ones too have cause to fear her presence, yet curiously enough rabbits will often regard a cat with comparative indifference. One day when I was watching some rabbits busy feeding by the side of a wood, a large black tom-cat came out of the covert and began to stalk them. His black colouring made the cat most conspicuous, and undoubtedly every rabbit saw him, though he crouched low in the grass and wormed himself towards them a step at a time. The nearest rabbits flipped their heels and cantered off a yard or two, where they went on nibbling the short turf. Those farther away paid no attention at all; one sat up and washed its face,

passing a paw behind a ear and drawing the ear down over its nose, after which it picked its paw and wiped its ear again. In the meantime the cat was creeping closer and closer, its tail twitching with eager anxiety, but the rabbits were aware of its approach, and again hopped off. Probably it would have got one at last, but an overpowering desire to sneeze suddenly seized me; the very effort to suppress it made it louder when it did break forth, and a moment later the rabbits were bolting in panic for the wood. The cat made a half-hearted rush at one as it sped past, and then slunk off.

Though I have never actually seen a fox stalking rabbits, it is probable they are equally indifferent to its presence, unless threatening actual danger, for I have seen one pass close to some feeding rabbits without alarming them. Yet in some respects how little it does take to frighten them. A mere footstep will be sufficient. When a rabbit is aware of an intruder it quickly notifies its neighbours by thumping on the ground with its heels, for sound and vibrations carry far along the ground. This danger signal is invariably given before a rabbit takes flight, when its bobbing white tail also notifies its friends that it is off. Many naturalists consider that the purpose of the white tail is to act as a danger signal, and it is certainly not nearly so noticeable when the rabbit is merely hopping about or feeding quietly. It is also a fact that if a rabbit

thinks it can retreat unseen it will take good care its tail does not give it away. It is a treat to see a rabbit stealing quietly off, its tail tucked down between its legs, so that only the dark upper portion of it is visible; it slips through the bushes like a shadow, and is almost at once lost to view. Very different is the behaviour of that same rabbit when alarmed in the open and when it knows that concealment is hopeless. Then it gallops headlong away, its white tail being displayed as visibly as a beacon on a hill-top.

Certain authorities say the object of displaying the white tail is for the purpose of leading home to the burrows the young and inexperienced members of the community,[1] but I cannot help thinking that if the "fluff-button" is really any use it is as a danger signal. Of course it may serve both purposes, but if you watch rabbits coming out to feed in an evening, the way they hop and frisk about, nibbling the grass here and there, scampering and playing, and then the change that comes over the scene at the sound of a whistle, you will hardly think the young ones want showing the way home! They all, young and old, big and little, thump their heels on the ground and gallop off as hard as they are able; there is no waiting for old ones to give the lead, but all flee pell-mell for shelter.

[1] Professor Poulton, *The Colours of Animals*, p. 211, and A. R. Wallace in *Darwinism*, pp. 217–27.

A strong sense of locality is possessed by the smallest of young rabbits, and from the moment it first ventures out, to bite the grass at the mouth of the hole in which it was born, it keeps one eye on the shortest way home, so as always to be able to execute a speedy retreat.

The reason for the self-reliance of young rabbits is that, once they are able to eat, their mother takes very little interest in them. She already has another family in prospect, for no sooner is the first litter sent out into the world than accommodation has to be got ready for the next, and if the site is out in the open the hole has to be specially dug, though, as mentioned before, many a family is reared in a secluded corner of the big burrow. How much truth there is in the assertion that under these circumstances they are liable to be murdered by their own father, is a matter on which I should not like to venture an opinion. Among domestic rabbits it is certainly not uncommon for the old buck to destroy his progeny, but the conditions of life in a cage are so unnatural that it is not safe to draw comparisons. Yet, whatever horrible accidents may occasionally take place in the darkest recesses of the holes, the mothers must as a rule rear their families in safety, for the number of young rabbits that are annually launched into the world is enormous.

Several animals have already been alluded to as helping to keep the rabbit population within

bounds, but the most active enemy the rabbit has, has not yet been mentioned, namely the stoat. This fierce little hunter probably kills more rabbits than any other foe save man, and it is feared by them as it deserves to be feared. When it enters a burrow the inhabitants flee in all directions, thumping their heels as they go, and bolting for the upper air. If only they all galloped straight away, they would be safe, but this is just what they do not do. Instead they stop, sit up, listen nervously, stamp their feet, hop on a yard or two, and wait again. Possibly they think the alarm was a false one. Maybe they think the hunter has settled on the line of another rabbit. At any rate they invariably waste their chances of escape by lingering about. Meantime the stoat has picked out a certain trail from the many scents in the burrow, and to this it will stick. It knows if it keeps changing quarry it will never be able to kill, but with its wonderful nose there is little chance of it losing the rabbit which it elects to hunt. Once the stoat has chosen a line, the rabbit that left the scent is doomed, though even yet it might save itself had it only the wits to gallop right away without waste of time. But the mentality of the rabbit presents some curious problems, not the least of which is why the mere hint of the presence of a stoat should have a paralysing effect. The minute a rabbit realizes it is being hunted by a stoat it loses its head. It will canter

perhaps fifty yards and then crouch. Meanwhile the stoat, momentarily at fault, gallops round in a circle, with its nose to the ground, so as to recover the line, and on picking up the scent is off again like a flash. The poor rabbit, suddenly aware that death is at its very heels, jumps up and goes on, but from sheer fright is unable to gallop, and crouches once more before it has covered many yards. The stoat, however, is almost upon it; it dashes along, its black-tipped tail flicking from side to side, at a wonderful pace; the scent is hot, it is racing to the kill, and, as the victim staggers to its feet, it springs upon it like a whip-lash flying through the air. The piteous piercing scream of a doomed rabbit rises upon the air, but dies away in a gurgle, for the sharp teeth have penetrated the back of its neck, killing it instantly.

In many cases the rabbit actually sits down and waits, unable to move, until the stoat comes up to it. I have picked up hunted rabbits so petrified by fear that they have made no attempt to get away. One lay in my hands for ten minutes or more before it showed signs of recovery, and even then could hardly stagger off home. Rabbits may sometimes be found that appear to have died of fear; at any rate one cannot find a mark upon them, nor any trace of injury. The trade-mark of the stoat and the weasel (the latter hardly ever attacks full-grown rabbits) is of course a hole bitten in the

back of the neck, and where you find one dead rabbit you are sure to find several more, for these fierce little hunters kill as much for sport as for actual need of food.

There is but one circumstance under which a rabbit may collect sufficient courage to keep its numbing fear of the stoat at a distance, and that is when a doe finds it attacking her young. Mother-love will work miracles; it will even nerve a rabbit to turn on a stoat! Even then it happens but seldom, and only three cases have come to my notice. The first was witnessed by my father, who was out one spring evening near a spot where numerous rabbits were feeding. He was walking along so quietly that they did not take alarm, and had got within thirty yards of the three or four nearest ones " when they pricked up their ears and looked towards a bush. There was a rustling, scuffling noise, and out came a big stoat, followed by a rabbit. She did not give him a moment, but, jumping over him, dealt him a sharp blow with her heels. He hissed and swore and tried to get away, but she went after him and hit him again and again before he could get under some dead bracken. The other rabbits sat up and watched, and not one ran away."

Two almost identical accounts, each told within a few hours of the heroic duels being seen, have been given me, the one by a schoolboy, the other by an old workman. The latter said: " A gert stoat come out o' a bury wid a

little wee rabbut in his jaws, an' out behind him come th' old rabbut, an' she fetches him one over th' back, so that he drops th' little 'un, an' away he goes for th' bushes, an' her arter him! But th' little 'un was dead—bit through th' back o' th' neck! No, I didner see no more."

Their powerful hind-feet are practically the only means of defence that rabbits have, for they seldom make use of their teeth, though if they liked they could inflict a severe bite with their chisel-like incisors. The only time I have known a rabbit bite was one day when ferreting. A rabbit had been pulled out alive and unhurt, and a small boy asked to be allowed to hold it for a moment. The lad held it tightly by the hind-legs, but for some unknown reason put it over his shoulder, so that the rabbit's head was near his neck. Suddenly, and without any apparent reason, the boy gave vent to a piercing screech; at the same moment the rabbit was seen racing away across the meadow. Angry demands as to "what he was up to" elicited the fact that the rabbit had bitten him in the neck—the blood was flowing freely!

Possibly the old bucks use their teeth in fighting, and judging by the way their ears get split they fight a good deal. However, in such combats as I have witnessed the feet only were used; they waltzed round one another, each trying to spring over the other and deal him a blow on the back or head with the strong powerful hind-feet.

It is very amusing watching rabbits at feed and play, for they often play like kittens, chasing one another about and frisking in sheer delight to be alive. Every now and again they have to stop and attend to their toilet, to wipe their faces or lick their paws, which latter they take the greatest care to keep clean. It is only when a rabbit is hunted that it gets its feet dirty. At nearly every other step they stop and flick their pads so as to shake off any drops of dew or other moisture. Occasionally one will sit down and stretch a hind-leg out before it, and give its hind-foot a good dressing, after which it changes its position and does the other foot. If it then feels inclined to take life easily, it will stretch itself out on the grass, lying in strange catlike attitudes, with its white stomach exposed to view, until something disturbs it. Very likely it will be a buck passing by, for the old gentlemen are very pugnacious, chasing the females and driving the younger rabbits. They give vent to their emotions in little grumbling grunts, and have a quaint habit of rubbing their chins on things. The males can always be told from the females by their broader, thicker heads. The female has a much narrower, longer head—in fact, a more feminine one—that of the buck being wider between the eyes, and his whole appearance slightly coarser.

The two sexes inhabit the same burrows indiscriminately, but whether each system of holes is the property of any one family, or whether

it is resorted to by any and every passing rabbit, is a matter on which it would be difficult to give an opinion, though when we remember how clannish animals are the probabilities rest with the former. Some of the burrows which have been used for years, and never disturbed by men with spades, are wonderful labyrinths of tunnels. There is one feature that a rabbit burrow hardly ever lacks, and that is a bolt hole. No heap of soil without betrays this exit. It is made by driving a tunnel up close to the surface so as just to make an opening and no more, and it is often covered with leaves and grass so as to be invisible, but when danger threatens, when escape by the main entrance is impossible, the inhabitants are able to bolt from this outlet.

When a rabbit is travelling fast its hind-feet come past its fore, as can be seen well when studying the tracks left in snow. When merely hopping, the hind-feet do not overtake the fore, but as the pace increases and more ground is covered at each bound it is evident that the rabbit lands with its hind-feet beyond the fore-paws.

After a light snow one gets some idea of the wonderful activity of the rabbits, for the woods and meadows seemed laced with their tracks, which they made when hopping to and fro in search of food, of young trees to bark, and other emergency rations that serve when the grass is buried. In a severe winter rabbits

will do great harm in coverts, barking the young trees as high as they can reach, but, however bad the weather, they will manage to pull through. The only thing that really does upset them is continued rain, as the young cannot stand too much damp. A wet spring invariably reduces the rabbit population more than the efforts of all the rabbit-catchers put together, and a dry one has a correspondingly beneficial effect.

Taken altogether, the rabbit is an amazingly successful animal; it increases and flourishes in great numbers, despite the quantities we kill and the other animals that live on it. It is found everywhere from the sand-hills of the seashore to the mountain valley, and, as said before, it is a feature of every woodland, for which latter reason this chapter has been devoted to it.

(*The rabbit is scientifically known as* Oryctolagus cuniculus, *Linn., and is divided into two sub-species :* O. c. cuniculus *of Northern Europe and a smaller lighter-coloured rabbit found in the Mediterranean region, which has been dubbed* O. c. huxleyi, *Haeckel.*)

CHAPTER X

BIRDS OF THE NIGHT (THE TAWNY AND LONG-EARED OWLS)

WHEN night creeps across the country, filling the woodlands with gloom, so that the creatures of the day retreat to their hiding places, the Tawny Owl awakes to activity. It fluffs out its feathers, leaves its perch, and with ringing hoot advises the forest world that the time has come for the birds and beasts of the night to leave their lurking places.

The Brown, Tawny, or Wood Owl, as it is variously called, is a beautiful bird, with its soft fluffy plumage delicately pencilled with browns and greys, tones that harmonize with the markings of the tree trunks against which it so often sits, making it one of the most difficult of birds to see when at rest. With its great dark eyes, and the spectacled effect of its facial markings, this owl has a look of solemn contemplation which belies its real character, for it enjoys life in its way just as much as the rest of the wild world, and holds nightly revels, when it makes the country-side ring with its

hooting. When a Brown Owl hoots, its throat swells up until it is inflated to the size of an egg, which fact that great observer Gilbert White pointed out many years ago, saying, "When brown owls hoot their throats swell as big as a hen's egg." [1]

Heard thrilling through the silence of the night, what an awe-inspiring sound the hoot is, yet by day it is scarcely noticeable, and few people seem aware that owls often hoot at mid-day. I have heard them calling to one another on a warm and sunshiny morning, exactly the bright and cheerful time when popular imagination would say they were hidden away, and particularly remember one blazing day in early June; it was beside a little stream, in which I was supposed to be fishing, but it was far too hot for a fish to be moving—indeed, there was not a trout rising—and the only thing to be done was to sit down under the nut bushes and watch the may-fly dancing in the air. There were few sounds, save the babbling of the brook, to break the stillness, when from somewhere in the thick woods rang out the clear hoot of an owl. Three times the bird called, when another responded, after which they sank into silence again. The fact is that the Tawny Owl is not so strictly nocturnal as people imagine. Its trade of mouse-catching makes the night its chief time of activity, but it has no dislike of daylight; indeed, it loves a sun bath, and I have

[1] Letter XV of the *Natural History of Selborne*.

seen one of these birds basking blissfully in the sunshine. Its wings were spread out, its head turned up, and it was conscious only of the blissful warmth. Of course the commonly accepted idea that owls dread and shun the light, that they are blinded by sunshine, is one of those popular superstitions with no foundation in fact. An owl sees perfectly well in the strongest light, and is not handicapped by it. The idea has probably arisen from the habit these birds have of winking and blinking when frightened. For instance, if you chance to surprise an owl at its roosting place, it will, instead of taking flight, draw itself up, gathering its fluffy feathers round it until it is very tall and slim, and then glare down on the intruder, at the same time blinking its eyes as if dazzled by the light. This is merely a nervous trick, and when the same bird takes flight you will note that it is well able to see where it is going, and that it threads its way unerringly through the trees, never by any accident colliding with boughs or trunks.

As a matter of fact it is by no means easy to find a Brown Owl at roost, for, as pointed out before, its plumage harmonizes most admirably with the tree trunk near which it sits, and its trick of drawing itself up when it sees anyone coming makes it very like a piece of broken wood. The Brown Owl invariably roosts close to the main stem of a tree, and usually some height from the ground, resorting to the same perch

day after day, and never, or hardly ever, sitting in a hollow tree, such as the Barn Owl prefers. The Brown Owl has a decided weakness for an evergreen when choosing a roosting tree, often selecting a spruce or yew, possibly because such trees are more shady, or maybe because the thick greenery ensures privacy. At any rate when an owl has found a good perch it is most faithful to it. By my home there is a pine in which an owl always roosts, but it is a tall tree, and the bird takes a great deal of seeing; indeed, one would never find it if one did not know where to look.

It is under such roosting places that you find evidence of the owl's midnight doings, for, as is the case with other birds of prey, owls throw up the undigested and undigestible portions of their food in the form of an oval pellet or casting. The fur, bones, etc., of the creatures they have eaten are thus rejected, generally about twelve hours after the last meal, and falling to the ground afford valuable evidence as to what these birds really live on. The bones and fur of mice predominate, especially those of the short-tailed meadow vole; sometimes one will find a few feathers, showing a little bird has been taken, and there will often be a surprising quantity of beetle wing-cases, the hard elytra being rejected undamaged, showing that the Brown Owl is not above eating insects. It is, indeed, very fond of them, and will also consume earthworms, picking them up off the turf when they

come to the surface on a dewy evening. I have seen the owls busy at this business on the tennis lawn on a moonlight night, besides finding evidence of it next morning—i.e. splashes of "whitewash" where they had sat on the tennis poles and croquet hoops.

With a view to finding out what the Brown Owl does and does not eat, I soaked 17 pellets in warm water, and carefully examined each one as it dissolved. They yielded the bones of 2 long-tailed mice, 1 bank vole, 19 short-tailed meadow voles, 3 common shrews, 3 half-grown rats, 1 very small rabbit, a number of beetles, and 3 small birds (probably chaffinches) that could not be identified with certainty. Altogether 29 rodents and shrews to 3 birds. I once found a half-grown water vole in a Brown Owl's nest, and later, in the same nest, a young mistle-thrush, but from the above it is plain that the Brown Owl is chiefly a mouse-killer, and that it does not often take feathers; still, it is not so strictly attached to fur as the Barn Owl, which hardly ever touches anything but mice. This may account for the fact that whereas small birds hardly ever worry a White Owl, they will mob a Brown Owl whenever they get the opportunity. It is rather a ludicrous sight to see a dignified Tawny Owl being hustled and bustled by a crowd of finches and blackbirds, all chattering and scolding, until the bird of the night fairly takes to its wings and seeks refuge in some thick tree. If a

mistle-thrush is among the aggressors, the owl will have quite a bad time, and I have even seen one of these big, bold thrushes, make an owl's feathers fly. A Brown Owl is not really a big bird—indeed, it is quite a small one when stripped of its fluffy plumage; it has a big head and big legs, but a very little body. Its big feet balance the weight of its head when flying, which possibly accounts for the fact that it is one of the few birds which moults all its tail-feathers at once, being for a short time without a tail. Most birds moult their tail-feathers in pairs, beginning with those in the centre, and so are never altogether tailless.

With its beautifully soft plumage the Brown Owl is most catlike, and perfectly silent in its movements, floating by on muffled wing so that it passes like a shadow. However, it does not hunt on the wing, but takes up a position on the branch of a tree, a post, or some convenient railings, whence it can watch for any movement in the surrounding undergrowth. Then woe to any mouse or vole that ventures from its hole! If only a blade of grass stirs, the owl drops quietly upon the spot, and the unsuspecting mouse is squeezed in a death grip. The Brown Owl always seizes its prey in its feet, or, to be quite accurate, more usually in the right foot, then flies up to its perch, and inspects its capture. The victim is taken delicately by the head, the skull is crushed by a nip of the sharp beak; the owl gives a gulp, the great part of the mouse

disappears down its capacious throat; another gulp, and only the tail remains; a third, and the mouse vanishes completely. The owl may remain in a contemplative attitude for a minute or two, but it soon wipes its beak on the post and is ready for the next incautious mouse that stirs abroad.

Gamekeepers, with certain enlightened exceptions, make the great mistake of destroying owls, not recognizing that in the Tawny and Long-Eared Owls we have the greatest mouse-killers of our woodlands. They allege that they destroy young pheasants, the story being that the owls knock the young birds off their perches after they have gone up to roost at night, and then pounce on them as they run about on the ground. But not one of the men who I have talked to has ever said he has *seen* it happen, only that "it is what they all say." "They say" is not very convincing evidence, and against it I can give the case of the young pheasants that were reared under a tree wherein a pair of Tawny Owls had their nest. I had a score of pheasant chicks and some partridges being foster-mothered by hens in coops, which were placed close to an old hollow ash tree in which the owls had four hungry owlets, but the owls never interfered with the chicks, and the young pheasants, partridges, and owlets were all reared safely.

Of course an eccentric owl may do things and kill things that are unusual for the species

as a whole, for birds are like the human race, and no two behave exactly the same, there being as much individuality among animals as among people. Once in a way you may meet with an owl of tastes differing widely from its fellows, and an old friend, a keen naturalist, knew one Tawny Owl that went fishing regularly! Nearly every afternoon he saw the bird sitting on a stump by a stream-side watching the water, into which it would suddenly drop, flying up again with a fish in its claws. As further confirmation of the fishing propensities of this species, I shall presently tell how a tame Brown Owl caught all the newts with which an aquarium was stocked.

To return to owls and pheasants, the legends related by keepers may have arisen from the fact that owls often haunt the covert-side fields in which pheasant rearing goes on, for these usually abound in mice and rats that have come to share the food intended for the birds. In places where the Little Owl is common, ill-deeds committed by the smaller bird often get laid to the credit of the two bigger species, for in all the foregoing remarks I have included the Long-Eared Owl, which is certainly as innocent of evil-doing as the Brown. That the Little Owl is a murderous little wretch there seems no doubt, for there is ample evidence that fur and feather come alike to it, that it hunts by day as well as by night, and will attack anything and everything that it meets with. But, as it is only a recent introduction in this

country (having been brought over from Scandinavia by some well-meaning persons who thought it would be an addition to our fauna), we will return to our two native woodland birds, which do live chiefly on mice, and do much good by keeping these mischievous little rodents within bounds.

Before dealing further with the Brown Owl, it may be as well if I give some particulars concerning the Long-Eared Owl. This is a trifle smaller bird than its tawny relative, and takes its name from the two upright tufts of feathers that adorn its head. These are most noticeable when the bird is frightened or annoyed, as it then puts them erect. It is a yellowish buff in colour, beautifully striped and pencilled with dark brown, and has the most wonderful fierce orange eyes, never to be forgotten in their intensity of colour. It is partial to pine woods, and a fir plantation of any size is almost certain to be tenanted by a pair of these owls. It is not nearly so numerous as the Tawny Owl, yet it is not uncommon, and these two species certainly are our two common woodland owls, which is why I am grouping them together in this chapter.

As usual with owls, the female Long-Eared is a much finer bird than her mate. This applies also to the Tawny, in which the hen is a head and shoulders above her spouse. I have an idea that both species pair for life, but admit that it is impossible to bring forward any positive

TWO LONG-EARED OWLS.

This pair were annoyed by the sight of the camera. Note their tightly held feathers and erect ear tufts.

evidence in support of my belief, which I have been told is merely a matter of faith founded on sentiment! Still, I cling to my sentimental idea, for the different pairs of Brown Owls that I am acquainted with appear to be the same year after year. For instance, a big greyish female and a small red male have nested for some years in the before-mentioned hollow ash.

The allusion to the grey hen and her red mate reminds me to say that two forms of the Tawny Owl are known, one of which is a much brighter, redder, brown than the other. In the grey type all russet tints are suppressed, and only the dull dark browns and ash-greys remain. The difference is independent of sex. In some districts the red type predominates, in others the grey, and again one will find them equally mixed. It is a common thing to find both forms present in the same family of owlets, also to meet with pairs of opposite tints, and it is unquestionable that the difference is in no sense a specific or geographical one, it does not indicate any real difference in the individuals, and apparently it does not make any difference to a Brown Owl whether it belongs to the grey-brown or red-brown form, though to human eye the latter is unquestionably the handsomer variety. My tame owl, "Old Hooter," was of the red type, and I never tired of admiring the beautiful tints of his plumage.

Hooter, as a tiny grey-white owlet, was taken by a village boy from the nesting hole

in a hollow oak in which he had been hatched, but the lad soon found difficulty in feeding his pet, and was only too glad to pass him on to me when I hinted that I would take him over. I merely wanted to save the owlet from a miserable existence in an old box, intending to return him to the woods as soon as he could earn his own living. He was then covered with greyish-white down, through which a few feathers were coming. His curious, bleary-looking great eyes, the red rims of which gave them a weak appearance, blinked unceasingly at you, and the peculiar effect was enhanced by what appeared to be a grey film passing now and again across one of them; for owls possess that "third eyelid," the nictitating membrane, and young ones, especially when frightened, make much use of it. This youngster was certainly afraid, and snapped his large beak in a vain attempt at intimidation whenever I went near. When one tried to touch him he adopted the usual defence of young birds of prey, rolling on his back and striking with his well-armed feet. In this attitude he was rather a ludicrous sight, for his long down-covered legs looked as if clad in grey woollen stockings; but it was no joke when he did get a grip, as his claws were long and sharp. But strong gloves that defied his talons, together with plenty of patience, enabled me to work wonders; soon Hooter began to recognize that I brought him his food, and to look upon me as a friend. It was not

long before he gave up blinking his eyes and snapping his beak whenever he saw me coming, and began instead to give the hunger squeak with which the owlets greet their parents. He was easy to feed, as he could already hold and tear up meat for himself. On mice, sparrows, and rabbit flesh he throve amazingly. It was most amusing to see him deal with a mouse; he would take it in his beak, transfer it to his foot, and look at it intently as if to see whether it was really dead; then, seeming doubtful on the point, would give its head a sharp pinch with his beak, crushing its skull so that the matter was placed beyond doubt, after which he proceeded to swallow it. As a rule the body disappeared at one gulp, just the end of its tail being left behind hanging out of the corner of his mouth, and another effort was necessary to get the last part down. He would then sit quite quiet for a few minutes, evidently giving the mouse time to get comfortably disposed in his crop, but he was soon ready for a second.

Hooter became very tame, and by the time he had acquired his full plumage was well acquainted with the members of the household, including the dogs, being on most friendly terms with all; but the minute strangers appeared he snapped his beak, drew his feathers tightly around him, and glared angrily at them. Even among those he knew well he had his likes and dislikes, generally preferring women to

men, the gardener being the person he most disapproved of, though why no one knew. Whenever the man appeared Hooter would draw himself up and blink rapidly, which always meant he was nervous as well as annoyed.

The owl was at first kept in an outbuilding, but, having been brought into the house once or twice, he proved to have such excellent manners, and was so well behaved, that he was promoted to the position of household pet, becoming far more interesting and intelligent than any parrot. He was only shut up at night, in the bath-room, and during the day was free to go where he pleased, which was all over the house. He usually spent the morning resting on a curtain pole in the sitting room, but in the afternoon he would become very lively, flying about and making the place ring with his hoots. When he came down from roost he always flew on to the top of an open door (a newspaper slipped under this door saved all trouble as regards "sanitation!") and there sat for some time, preening his downy plumage, and gazing benevolently at those who passed in and out of the room. When spoken to he would reply with the soft gurgling call, which is one of the cries of the Brown Owl. He would often sit on my shoulder and coo softly to me. When hungry he soon let us all know, raising the sharp "ker-wick!" cry, which is another of the calls of this species. But, however hungry he was, there were certain things he would not

eat. One day a member of the family brought in a downy duckling that had met with an untimely end, and thinking it would be a treat for Hooter, offered it to him. He took the corpse, held it in one foot and studied it carefully, nipping it here and there as if to see what it was made of, but evidently the flavour of the woolly down did not appeal to him. At this point I was called away, and did not learn until some time afterwards what had happened. Hooter evidently carried it off upstairs, to be stored away for future sampling. I must explain that he always "lardered" anything he did not want to eat immediately, but hitherto he had never forgotten his hidden treasures, always returning to them and eating them up. His favourite larder was on the top of a tall piece of furniture in my father's dressing-room. Well, the episode of the duckling was forgotten, until some ten days later a most vile smell became apparent in this room. At first no one could think of what could be causing it, then I remembered Hooter's larder, and hastily got a pair of step-ladders to look on the top of the wardrobe—as the housemaid graphically expressed it, "the duckling was walking!" The "powers that be" made a great commotion over this incident, threatening to there and then eject the owl from the house, and he was only allowed to remain on condition that I made a regular and careful search of all his larders.

I have no evidence that owls in a wild state

store up spare food, but think it is extremely probable, for it has been a marked trait in the character of all the captive owls I have met with.

Hooter was most particular over his toilet, preening his feathers carefully and repeatedly, and indulging in frequent baths. In most correct fashion he washed in the bath-room, where he soaked himself nearly every morning in a pan of water, splashing it far and wide, until he at last emerged more like a drowned rat than anything else, after which he would go to the sunniest spot he could find and spread out his wings and tail to dry. He never bathed in the same water twice, and if I forgot to change it, went without a bath until I remembered. How fond owls are of washing is shown by the fact that I have caught wild owls, both the Brown and the Barn, in the act. One of the former was surprised bathing in a little stream. The noise of the brook, rushing over its rocky bed, drowned my footsteps on the fallen leaves, green moss, and little crackling twigs. The afternoon was advancing, and the sinking autumn sun shot long streamers of light through the partly denuded trees, and gilded with gold a great boulder that lay in my path. As I rounded it, stepping carefully to avoid slipping on the moss and liverwort-grown stones, a brown form rose from the shallow rippling water but three yards off—it was a Tawny Owl taking a bath, and as it fled away it scattered glittering drops of water behind it, showering them on the rank

willow herb and burdock leaves at the stream-side, where they sparkled like gems in the sunlight.

To return to Hooter, after the episode of the duckling all went well with him for twelve months or more. He continued on intimate terms with all the family. He occasionally got into scrapes, such as finding a way from the attics into the space between the roofs, wherein he could be heard pattering about, but from which he would not descend. A dusty trap-door had at length to be prized open, when, tempted by the offer of a mouse, he flew down to me. He several times flew out into the garden, but returned through an open window—in fact, he appeared to have no inclination to go away; but the time came when he had to be exiled to an outbuilding. The trouble began through a housemaid taking a brush and sweeping Hooter off his roosting place one morning, when she wanted to turn out the sitting-room—from that time forward he bore all women who wore white caps a fixed grudge. He would wait on the tops of doors until he saw a maid coming, and then drop silently on to her head, when, having given her a great fright, he would fly hooting away. Soon all the servants were in terror of the bird; not that he hurt them, but his sudden and quite unexpected descent was so startling! The climax came when he mistook my father's bald head for a white cap coming! That finished it, he had to go, and I

dared not give him his liberty for fear he should fly at persons out of doors.

Just at this time I was offered a female Tawny Owl, so accepted her to keep Hooter company. He did not seem much attracted by her, often flying at her and knocking her head over heels; however, she bore his ill-treatment meekly—she was considerably bigger than he—and eventually they settled down. As spring approached it became evident that Hooter was behaving very differently, and soon it was obvious that they had mated. A nesting box gave them great satisfaction, and he spent half his time jumping in and out of it. When I went into the place he would hop on to my shoulder, gurgle down my ear, jump into the box and turn round and round therein, cooing all the time, and when his mate actually laid an egg his excitement knew no bounds. Alas! the eggs were soon broken and the attempt at nesting came to nothing. The following year I obtained a couple of eggs from a nest in the wood, and gave them to the tame pair in place of their own, as I thought the latter were probably thin shelled. With the wild eggs they had better luck, and succeeded in hatching one. The parents lavished the greatest care on the owlet; indeed, Hooter had been most attentive to his mate the whole time she was sitting, carrying food to her and driving off all unwelcome intruders. The young owl flourished exceedingly and grew at a great pace, so that by early summer he

was full fledged and able to earn his own living, when I let him loose into the surrounding trees. Here he remained for some time, returning each evening to the owl's house for food, but at last he began to hunt for himself. "The Owlet" subsequently found a mate, and for many seasons this pair have nested in a hollow tree near the house.

Hooter flourished for ten years, and up to the day of his death looked as well as ever, but fate overtook him in the shape of a fox-terrier. Apparently the dog, which was a mischievous little demon, had been jumping up the wire netting of the owl's enclosure in an effort to get at Old Hooter sitting on his perch inside. Evidently the owl became annoyed, and flew at the dog, which grabbed him and pulled him through the fencing. The terrier went off the premises next day

Before turning from Hooter to his wild relatives, I must mention an incident of which he was the hero, namely the disappearance of a number of newts from an aquarium. The newts had been getting mysteriously less, and it had been a puzzle how they had got out of the tank, when one morning I saw the owl sitting on the back of a chair and gazing into the aquarium. I waited and watched. In a few moments one of the newts, which had been lying quietly on the gravel at the bottom of the tank, gave a flip of its tail and began to rise to the top of the water for air. It was a beautiful little male of

the common smaller species, and as it rose it exposed its orange and black spotted stomach, while the crest along its back and tail waved elegantly. The owl bent his head lower and lower, then moved it round in circles as if focusing his eyes, and at the moment when the newt reached the surface of the water he dropped, with his right foot extended, and neatly picked his victim from the water, whence he bore it to the back of the chair. Having gravely inspected it, and put back the whiskerlike feathers round his beak, he nipped its head so as to still its wrigglings, and with a gulp swallowed it.

Many experiments were tried with this owl to see what he would and would not eat. Beetles he was fond of, and he would take most dark-coloured insects, but conspicuously coloured ones were usually refused after being once sampled, while after tasting a "woolly bear" he spent ten minutes cleaning his beak and henceforward refused all hairy caterpillars. One day he tried a toad, but again his beak required a great deal of wiping and he never touched another.

The way owls hunt their prey demands a keen sense of hearing as well as of sight, but it is a curious fact that, though both their ears are very large, the one on one side of the head is often larger than that on the other.

The hoot of the Tawny Owl seems to be both a call and a challenge, and the time to hear the nightly concert at its best is in November and

HOOTER, THE TAME TAWNY OWL.

INTERESTED IN THE CAMERA. GETTING BORED.

Hooter was most difficult to photograph, as he was most inquisitive, nearly always flying on to my shoulder or on to the top of the camera when I wanted to get a good portrait of him.

December, when the country-side rings with hooting. Go out any quiet evening and you will hear the challenges ringing on all sides. From the dim mysterious woods, from the trees that loom darkly against the sky, comes first one call and then another, echoing to and fro, flung back by hill and dingle, until it seems as if the night is alive with owls. How loud and piercing the hooting seems when other sounds are hushed. Unheard, an owl flies up, perches in the tree overhead. The "Hoo-oo-ooo!" rings out unexpectedly close at hand, so that even the stoutest nerves are thrilled and startled. "Ker-wick! ker-wick!" replies another, "Hoo-oo-hoo-oo!" answers back the first, and so it goes on far into the night, perhaps until dawn comes and sends the excited birds home to roost.

It is the grave matter of pairing which is the cause of all the trouble and excitement, for the Tawny Owl breeds so early in the year that it has to begin mating, and settling the hunting grounds of the different pairs, well before Christmas. It is then that the young birds of the previous season are driven from their parents' territory, when the old birds too have to hold their ground against homeless young couples in search of suitable nesting places. In any given area the number of hollow trees is limited. The best ones are already tenanted, being occupied year after year by apparently the same individuals, but each spring these pairs launch families of

four or five owlets respectively into the world, with the result there is often a sad dearth of housing accommodation. Of course some of the young owls meet with disaster, some of the old ones likewise come to grief, but still the Tawny Owl population remains in excess of the available nesting places, and many pairs do not succeed in breeding. For one thing, the Brown Owl is a conservative bird: if it cannot get the hollow in a tree which is the proper nesting place of its species, it seldom turns to any other site. I have met with but two exceptions. The first case was that of a pair which made use of an old and flattened squirrel's nest, laying their round white eggs on the top of it. The very shape of the eggs hastened disaster; they soon rolled off, fell to the ground and were broken. The second case was that of a couple of owls which nested in a disused magpie's nest situated in an old and high thorn fence. In this airy cradle the young were reared with complete success and got safely away.

The Long-Eared Owl prefers an open situation in which to rear its young, never making use of a hollow in a tree, but generally choosing the top of an old squirrel drey, a deserted hawk's nest, or some similar platform, on which to lay its five or six white eggs. One family that I found, was domiciled in what had been a sparrow hawk's nest, near the top of a tall old Scotch pine. The old fir had seen many a year pass by, its long red trunk went straight up bare of

branches high into the air, its lower boughs had been broken by wind, storm, and heavy snows, but the topmost ones were yet untouched and waved their grey-green needles gaily against the blue sky. Below, its roots penetrated far into the soil, though constant winds and rain had bared the uppermost, so that they ran like red fingers until lost among the ferns and moss. But it was not the tree, it was a platform of sticks and twigs high up in its boughs, that attracted my attention, over the edge of which three weird, little, round white faces were peering down at me. They looked like little old elfen women with shawls round their heads. They were young Long-Eared Owls, and were just at that age when owlets begin to scramble to the edge of the nest and look down upon the world. In another two or three days they would be strong enough to get out on to the branches near at hand, though not yet able to fly, at which stage the sight of anything strange makes them freeze into motionless excrescences of the bark, when they are easily overlooked. The perching stage, during which they squeak plaintively to their parents to bring them food, passes rapidly into that when they are strong on the wing, and able to follow the old birds about.

Failing an old hawk's nest, or some such site up a tree, the Long-Eared Owl will descend to the ground, and it is not unusual to find it nesting under a bush, or beneath no more shelter than that afforded by a tuft of grass.

Nests in such situations should not be confused with those of the Short-Eared Owl, a distinct species, that always lays its eggs in such a spot. As the latter is more or less a moorland bird, it will not be further alluded to here, except to say that the greater length of the ear tufts in the Long-Eared at once serve to distinguish them. In the Short-Eared they are quite short, as the name indicates.

The Long-Eared Owl, though not really a migratory species, any more than the Tawny, will at times shift its hunting grounds. For instance, if there is an especial abundance of mice in any particular locality Long-Eared Owls are sure to turn up in numbers, and this has been several times noted as a feature of the "vole plagues" that have now and again occurred in different parts of the country. As the plague decreases the owls vanish, no doubt returning to their homes.

The Long-Eared Owl does not begin nesting quite so early in the season as the Brown Owl, which latter is one of the first of the woodland birds to lay and to sit. In March, when the dipper is just giving the finishing touches to her mossy nest by the waterfall in the stream, the Brown Owl begins incubation. In her unlined, untouched hole, with nothing but the wood chips for it to rest upon, she lays her first egg, and immediately begins to sit. The Long-Eared also begins incubation with her first egg, so that it has a considerable advantage over the next egg

and a still greater over the succeeding ones. The eldest chick will hatch a week or ten days before the youngest, with the result that the owlets differ enormously in size and development. When the last hatched is a male, and therefore very small (in birds of prey the male is the inferior sex), he has very poor prospect indeed. He is trampled underfoot, his larger and stronger sisters seize most of the food, and his fate is generally an early and mysterious disappearance. While quite young the owlets are clad in pure white down, but as they get bigger this gives place, in the case of the Brown Owl, to a speckly grey covering, through which the feathers presently make their way. The Tawny Owl, especially the hen, is often most courageous in defence of her young, and I have been attacked by her when too near the nest. I was once stooping over a hole in an apple tree, at the bottom of which were four nearly full-fledged young owls, when something gave me a startling blow in the middle of the back. It was merely the old bird resenting my inquisitiveness !

About the end of May the youngsters get out into the trees, when in the evenings one may hear their shrill and piteous squeaks, to which the parents reply with the " ker-wick " cry, and a hoot now and again. To me it is one of the pleasures of a summer night to hear the young and old owls calling, and to know that the various families have got off safely, for not only is the

Brown Owl one of the most fascinating of birds, but it is also one of the most beneficial of all our woodland creatures. To it, the kestrel, and the Barn Owl do we owe it that the ever-multiplying mice are kept within reasonable bounds.

(*The British Tawny Owl is ranked by Witherby in his* Handbook *as a sub-species,* Strix aluco sylvatica, *Shaw, of the widely distributed* Strix aluco, *Linn., which ranges through Europe. The British race is smaller than the Continental.*

The Long-Eared Owl, Asio otus, *Linn., is found throughout the Continent and North Asia, also North-West Africa, but is subject to practically no variation in the British Isles or the rest of Europe, so the question of sub-species need not be discussed here.*)

CHAPTER XI

THE SQUIRREL

OF all the beautiful creatures which we find in our woodlands there is not one more lovely than the squirrel. It is an exquisite sight perched aloft at the end of the swaying bough of some tall tree: clothed in reddish-gold, with its bushy tail curled over its back, and rocking gently to and fro in the breeze, it seems the embodiment of grace, beauty, and wild life. Intelligence, too, gleams from its beady dark eyes, as it gazes down from its stronghold, the tree-tops, where it reigns supreme, unmolested by other animals and birds, and safe from the reach of all creatures save man with his gun.

Its agility, its extraordinary leaps and bounds, the graceful ease with which it makes its way through the tree-top world, and its quickness to note the approach of danger when it does venture down to the ground, all help to render it safe from attack by any of the creatures which at present roam our woods. In days gone by, when the wild cat and the pine marten were

yet common—instead of being nearly exterminated —and the bigger birds of prey were plentiful, it had formidable foes to contend with. The marten in particular must have taken heavy toll, for it was a tree dweller like the squirrel, and nearly as wonderful a climber, combining marvellous activity with the persistence and blood-thirstiness of the weasel tribe.

It has been suggested by Professor Poulton[1] that it was to such foes the squirrel owes its beautiful feathery tail. The argument is that this organ, being the most conspicuous part, would be the first portion to catch the eye of an enemy, but if the squirrel was seized by it, it would be able to wriggle away unharmed, leaving only a wisp or two of fur in its enemy's claws. So in each generation the squirrels with the finest tails would be preserved. With all deference to the authority in question I cannot but think the theory far-fetched. Why is it that the marten likewise has a thick bushy tail, which, like that of the squirrel, is somewhat flattened in shape? I incline far more to the theory that a broad bushy tail is an assistance to creatures leading an arboreal life, enabling them to balance easily as they run along the slenderest twigs, and aiding them as they leap from bough to bough. It is certainly significant that many tree-haunting animals have fine large tails.

A curious thing about the squirrel is, that though it has few or no natural foes in this

[1] Professor Poulton in *Essays on Evolution*, p. 325.

country at the present day, it shows no tendency to increase, and in many parts of the country is decidedly decreasing, especially in the Midlands. There is a certain wood where four years ago it was the usual thing to see half a dozen in the course of a walk. They peeped at one from behind trees; vanished, to appear higher up the trunks; or sat on the boughs overhead, and chattered vigorously as if abusing the invader of their domain. They were to be seen, like living beams of golden light, springing from branch to branch, and taking flying leaps from tree to tree; in short, squirrels were everywhere and their "dreys" one of the commonest sights in the trees.

Now, in that same covert, it is quite an event to see a red head peeping at one, and there are very few nests in the trees. If there is more than one pair in the wood, they have not been very active in the matter of nest making. The cause or causes of their diminished numbers has often puzzled me, but I suspect that the squirrel is subject to some sort of epidemic disease. It will disappear from a given locality for a time, and then gradually return, only in a few years' time to become scarce again; in fact, their numbers appear to wax and wane, and it is possible that the general decrease of squirrels that I spoke of just now is attributable to some such cause. If so, we may hope to see them more plentiful than ever in a little while.[1]

[1] Since this was written squirrels have become plentiful again in this particular wood.

An allusion was made a little way back to the squirrel's nest. Country folk often call the ordinary living nest the "buck's drey," but, except when rearing young ones, the female makes a similar nest to the male. The "dreys" are well-made comfortable dwellings, and are generally placed in the fork of a tree or else on a stout branch. They are of considerable bulk, and must represent a good deal of labour. One that I pulled to pieces was made of nut sticks and birch twigs, the walls of the nest were of leaves and moss, and the lining was of finely shredded birch bark, which made a very cosy and comfortable bed. Entrance was effected by means of a small hole at the side. I have examined others which were lined with dry grass and moss, but bark is a favourite substance. No particular care seems to be taken to conceal the dreys used for living and sleeping in, and they are often in conspicuous situations, but the breeding nest is a different matter. It is generally placed in a thick evergreen tree, such as a spruce, a yew, or a holly. The preference for evergreens is probably due to the female beginning to get her nursery ready before the other trees are in full leaf. Well built as the ordinary drey is, the breeding nest is even better, being made with extra thick walls of moss and grass, and beautifully lined with shredded grass and birch bark. This lining, one regrets to add, is usually the home of a large assortment of parasites, especially fleas, for the dainty exquisite

THE ENGLISH SQUIRREL.

A YOUNG SQUIRREL.

squirrel is not particular as regards "company"! For this reason it is never wise to put your hand into a squirrel's nest; besides which the young squirrels, if at home, may resent it. They grow quickly and soon develop into miniature editions of their parents, including teeth, which they will use with quite good effect! As an instance of this I must tell the story of a little squirrel that came into my hands. It was one of a family that had been reared in a nest in a fir tree, which tree was to be cut down with the rest of the wood in which it grew. A boy, who was watching the timber-felling, noticed the drey, and immediately swarmed up the tree, put his hand into the nest, and pulled it out quicker than he put it in—something had given him a sharp nip! Next second "a whole swarm of squirrels tumbled out." He managed to scramble down quick enough to catch one of the young ones which had fallen to the ground, and that evening brought it to me. The rest had vanished among the fallen timber. The one he brought to me was about six inches long, head, body, and tail included. It could see well and was surprisingly active for its size. As one of the stable cats had a large family of kittens, I took the little thing to her, in the hope she would adopt it. She took little notice of it when it was put among the kittens, but the young squirrel was not ready to accommodate itself to such strange surroundings. It several times crawled off into the hay in which the cat had made her nest, but after

a time it seemed to settle down, and, as puss was so good natured, there seemed hope that all would be well. Unfortunately I had forgotten that a workman had had instructions to destroy some of the kittens. Half an hour later, when returning to see how things were getting on, I was startled to hear heated language coming from the loft, where the cat's family was. Rushing up, I found the man on his knees with the kittens before him, and one of his fingers was bleeding quite fast. He had picked a kitten up, and a rat, that had been lying in the hay, had sprung out and bitten him, he said. Without wasting time in explanations I began to look for the squirrel, which was at last found at the very bottom of the pile of hay, into which it had scrambled when so rudely disturbed. Even then the workman would hardly believe that it was merely a very small squirrel which had given him such a sharp nip. After this disturbance it was not surprising that neither cat nor squirrel would have anything to do with each other.

Young squirrels are born early in the summer, in May or June, the litters numbering from three to six. The mother is most attentive to them, and not only builds an elaborate nursery for them, but, if the first nest fails to please her, will make a second, and move them to it. If too many people come by, or if the nest gets too verminous for comfort, she soon makes another and has a removal. I once had the

good fortune to see an old squirrel moving her young ones. It was a fine morning in May, and I was watching, from a window, a hen blackbird collecting worms for her nestlings, which I knew were in the shrubbery, when, as she flew off with her load, my eye was caught by movement in a tall spruce that grew close to the house. Something had moved among the dark boughs, but whatever it was ceased as I looked. All that was to be seen was the tall, dark tree, dotted with tender young green shoots, and the topmost boughs with brown cones. The morning light caught the delicate green of the young shoots, and made them stand out clearly from the heavy green of the old foliage, but, as far as any living object was concerned, the tree seemed quite deserted. Not even a sparrow moved among the branches, though it was the home of a goodly number, and several pairs had shortly before been carrying up building material into the thick boughs at the top. Certainly I had not seen them at work for the past week, but from the ground it looked as if the nests were finished, as several dark masses could be dimly made out. So I watched to see if they were again at work, and, if not, what it was that had moved.

Suddenly one of the red-brown cones at the very top of the tree moved slightly; looking at it, with eyes focused upon it, it took shape and form, and became a squirrel!

The drifting grey clouds parted, revealing blue

sky, and the sun shone and caught the squirrel's red coat until it shone like living gold, and the wind swayed the tree-top and rocked it to and fro. Backwards and forwards the squirrel swung, quite unconcerned; the dizzy depths below it did not disturb its nerves, it nibbled away at something it held in its paws, while the wind played rude pranks with its tail that was curved over its back. Then it stopped eating, looked down from its lofty perch, dropped suddenly to the bough below it, caught at the next swaying one, then sprang outwards and downwards to another swinging up and down many yards below, and I, looking on, held my breath, for it seemed as if it must be hurled to the ground; but no, it caught the branch, swung for a second, then dived into the dark interior of the tree and disappeared.

I remembered, when it had vanished, that I had twice seen a squirrel in the plantation —though this was the first time I had seen it in the big fir—and I wondered if its presence round the house had anything to do with the sparrows having deserted their stronghold. The squirrel is by no means above eating birds' eggs, or even young birds. Meantime I waited and watched; in a few moments there was a movement lower down—something was descending the trunk, but it was not going as fast as a squirrel usually does; however, it was the squirrel, for where the branches thinned it came into plain view. In a second or two it jumped

down to the ground, when the reason for its cautious movements was obvious—it carried something in its mouth. The squirrel looked this way and that, evidently to see if the "coast was clear," and then ran across the lawn, passing close beneath the window, when it was apparent that the burden was a young one. It was a mother moving her family to a new nest.

The squirrel raced across the grass so quickly it was difficult to see exactly how she carried the little one, but I think she held it as animals generally hold their young, namely by the "scruff of the neck." At any rate she carried it in her mouth with its little red tail curled over her neck. She disappeared into the plantation on the farther side of the lawn, but I remained at my post and waited to see if she came back. In a few minutes she returned, having left her load behind her, bounded across the grass, and ran up the fir tree. It is noteworthy that a squirrel in a hurry does not run, but proceeds by leaps, and even when carrying her baby this squirrel leapt along in the usual fashion. She had not been long up the spruce before she came down again with another youngster, and the previous performance was repeated, the little squirrel being carried across in the same hurried way. A third visit was paid to the fir tree, and yet a third young one removed, after which, though I waited for a long time, she was seen no more—it was evident she had transferred all her family.

I found her new nest in the plantation; it was quite a hundred and fifty yards from the first, and it was wonderful that she moved the little things so quickly as she did. Why the removal was undertaken is another matter, but evidently there was something she did not like about the nest in the spruce, and so built a new one in a more secluded spot. But it annoyed me to think that a squirrel had made a nest, and reared her young ones, in a tree practically touching the house, and I never even suspected her presence until she betrayed it by carrying them away.

There can be no question that squirrels have a weakness for eggs, and will also kill callow nestlings, and I strongly suspect that this one had eaten the eggs of the sparrows. Many rodents are liable to succumb to such a temptation if the opportunity arises; indeed, it is astonishing what a number of creatures there are, which are popularly supposed to feed only on nuts, grain, etc., which will eat flesh if providence puts it in their way, ditto eggs if they chance upon them. Mice, for instance, take heavy toll of the eggs of those small birds that nest on, or near, the ground.

Of course the squirrel is principally a vegetarian; that it eats nuts is notorious, and every nut-gathering boy is aware that his greatest competitor is that dainty sprite in golden-red which flashes through the trees and bushes. But the general belief that the squirrel is a most provident little

animal, and that it lays by a large store of nuts, from which it draws its supplies in winter, when food is scarce, is hardly so accurate. The story of the pile of hazel nuts and acorns, hidden in a hole in a tree, somewhere near its nest, rests, I am convinced, on anything but direct observation, and is totally at variance with the squirrel's habits and character. It is one of those pleasing myths that one feels loath to give up, but I have never found a particle of evidence in support of it. Certainly the squirrel does hide away some of its food, but not with the foresight that old Nature books credit it with. Its method is a most erratic one. It buries a nut here, an acorn there, in the grass, among fallen leaves, under moss, or anywhere that it can scratch a hole and drop its treasure in. Each nut is hidden separately, according to where it chances to be found, there is no method in the way it is buried, and any one squirrel's store may be scattered throughout a considerable area of woodland. Unfortunately the owner's memory is far from good, and generally fails it, so it is pure luck whether it ever finds any part of its stores when the time comes to want them. When the winter shortage sends it down to the ground, to hunt and rummage among the woodland carpet of fallen leaves, it is just as likely to unearth some other squirrel's hidden treasure as that which it put away itself.

It is very amusing to watch a squirrel either hiding nuts or hunting for them. When nuts

are plentiful in the autumn you may often see one at work. It comes running down a tree trunk with a nut in its mouth, jumps on to the ground, where it hops to and fro for a moment, then pauses suddenly, scratches hastily with its fore-paws, drops the nut into the shallow hole thus made, and as hastily covers it up again, all the time wearing a fugitive and guilty air, as if it is afraid of being caught in the act. It then scampers off, but comes across an acorn on the way, which is there and then hidden on the spot where it was found, after which it leaps into a nut bush, only to descend in a moment or two with another, which is buried under the bush. Numbers of nuts and acorns are treated in this way, and, as said before, some of them are recovered when, in the midst of the winter, food runs short, for then the squirrels come down and hunt industriously among the mass of dead leaves that lie so thick beneath the trees; but others are never found, and many a nut bush, and many a great oak, owes its existence to the nut or acorn having been planted by a squirrel. Pheasants too, foraging among the moss, fern, and leaves, bring to light many that were buried; in short, it is but a tithe of the nuts that were buried in the autumn which the squirrel eats, and even then it probably consumes its neighbours' nuts and not its own!

At first sight it seems as if this habit of the squirrel can be of little use to it; however, as

it does find a small proportion of the nuts it puts away, it derives a certain amount of benefit from its hiding instinct, though not as much as do the rats and mice, which lay by large stores in their burrows, on which to subsist in times of scarcity. But then there is little instinct, and much intelligence, in the way the rat does its storing. Which remark leads me into a digression, for many persons overlook the great part played by intelligence and experience, failing to realize that birds and beasts differ from ourselves, not in kind but in degree. It must be remembered that even the human species has its instincts, e.g. the baby that automatically sucks its mother's breast. But with us unreasoning inherited impulses are reduced to a minimum, which does not mean that other creatures are without any share in the power of understanding and profiting from what goes on around them. They vary in their ability to put "two and two together," though all learn, some more, and others less, through experience. The more one sees of birds and beasts, the more highly does one rate their intelligence. Some, of course, are more "brainy" than others, and, though he is by no means a fool, our friend the squirrel is not one of the most clever; for instance, he cannot rank with the raven and the common rat—their mentality is indeed of a high order!

Still, as said before, the squirrel is not a fool. For example, he knows well when he is safe and out of reach, and it is a most amusing sight

to see one that has been disturbed when on the ground race for a tree, and then, having got out of reach, turn round and abuse the intruder. Having reached a high place, where it feels safe, it will turn round, sit up, and jerk out, its plume-like tail waving at each bob, the sounds "Vut! vut! vut!" in rapid succession. The more annoyed it gets, the more vigorous are its jerks, until it seems as if it must shake itself off the branch in its annoyance and excitement. Indeed, a squirrel up a tree will indulge in as much vulgar abuse as a small street boy safe out of reach.

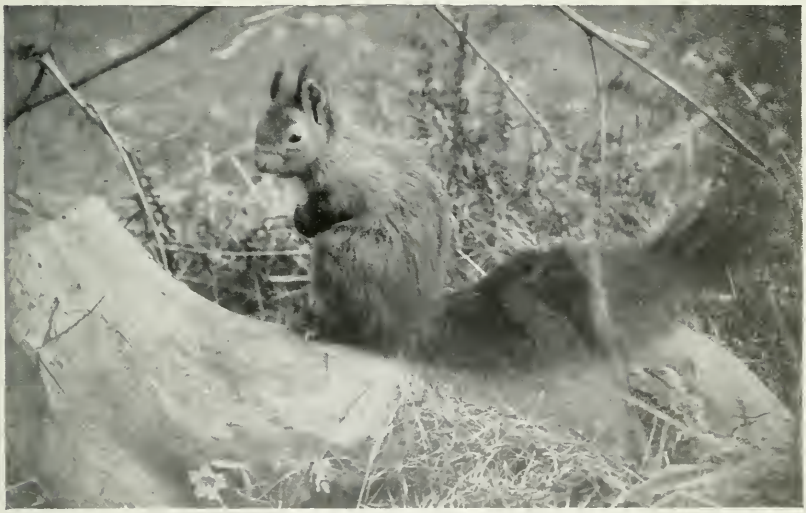
Though the squirrel does not hesitate to show itself when it knows that it is safe, yet no creature understands better the art of keeping out of sight, and of seeing without being seen. The first hint of a possible foe causes it to pop round the nearest tree trunk, and it then takes care to keep several feet of "heart of oak" between it and the enemy, dodging backwards and forwards as the foe shifts his position. One must indeed have sharp eyes to distinguish that little head just peeping round the tree. For one thing a squirrel's colour blends wonderfully well with its surroundings. I do not mean to assert that its beautiful red-brown coat is a matter of protective adaptation, for probably any other shade of brown would be as difficult to see, but it is far from being conspicuous. In winter you are apt to overlook a squirrel, taking it for a bunch of dry leaves, and in summer it seems

to merge into the shadowy spaces between the green ones. If you doubt this, try the following experiment: note the exact position of a squirrel, turn away your eyes for a moment, and then try and re-locate the squirrel. Even if the animal has not moved and you know where to look, it will not be so easy to "spot" it as you expected. Summer and autumn are the periods of plenty with the squirrel, when the nuts and berries are ripening and the woodland world is full of good fare, but it does not wax so fat as the dormouse, probably because it does not indulge in a prolonged sleep. It does not hibernate in the proper sense of the term, though bad weather will keep it temporarily at home in its warm nest; however, you may meet with it abroad at all times of the year, and I have often seen squirrels about in the snow, besides tracking them where they have come down to explore the strange white substance.

It is generally accepted as a fact that each squirrel has its own nest, and I think this is as a rule correct, but I have found three full-grown ones sharing the same quarters. My brother and I were walking through a wood one warm summer afternoon, when we spied a squirrel's drey in a wych-elm. The nest was somewhat larger than usual, and was placed where the trunk forked into two big branches. "Let us see if there is a squirrel at home," said my brother, and hit the tree with his stick. Instantly a brown head with feathery ears and beady eyes peeped

out, and in response to a second blow the squirrel sprang from the nest and scuttled away through the branches, a second following it, and then a third. They looked quite adult, and to this day I have no clue whether they were three old ones that had made a common dwelling or a family that had not yet parted company, but probability is in favour of the latter theory.

Squirrels make the most delightful pets if taken in hand young enough, and are very easy creatures to keep in good health, but it should not be forgotten that they have the most formidable teeth, and can, if annoyed, inflict a far worse bite than a rat. I had a squirrel for some time, but "Nutkin," as he was called, never became very confiding, so I turned him out in the garden. As said before, to get any animal really tame you should have it when very small and before it has learnt to fear. However, Nutkin acquired a fair amount of confidence. He would take a nut from me, hold it in his paws, nibble off the point, split the shell, and eat the kernel. He was also fond of apples, besides which he would eat dry bread, soaked dog-biscuit, and many odds and ends. He was quite a thirsty creature, and a supply of fresh water was always kept in his cage. By the way, I would beg anybody who has a pet squirrel not to shut it up in one of those horrible little cages with a revolving wheel, but to have a large roomy one, or better still, a wire enclosure made for it.



THE SQUIRREL.

1. OFF TO LOOK FOR ANOTHER NUT.

2. CONTEMPLATION.

Best of all is to give it its liberty, for if encouraged with food it will probably remain about the house and gardens, where it will be a far greater joy than as a poor prisoner in a miserable little cage.

When Nutkin was released he made his headquarters up a big fir tree near the house, and in the crotch of a hawthorn next to it was kept a supply of nuts, which served as a lure to keep him from wandering far afield. For more than twelve months he stopped about the garden, with occasional excursions to the orchard and perhaps to the wood. Twice he was away for a week or more, but sooner or later the nuts disappeared, or he was seen sitting up on a branch eating them, and we knew he had returned. For a long time he led a lonely life, and the hope that he might meet with a mate on his wanderings and bring her back to share the good things in the fork of the hawthorn was never realized, but when the spring came round again he disappeared for weeks, so that it was generally believed that he had gone for good. One day in the wood I saw a very bright reddish squirrel, which seemed very tame, that was undoubtedly Nutkin, in company with a lighter duller one, and I was convinced that this was the fascinating female that was keeping him from home. By the way, squirrels vary a great deal in colour, some being quite a faded brown, and having light brushes approaching grey in colour, while

others are a lovely rich red-brown with tails to match. Some of these varieties are merely a question of seasonal changes of the coat, while others are individual; but the most beautiful of red English squirrels hardly approach in beauty of colour to the bright golden-red of the Continental squirrel.

To return to Nutkin, in June he came home again, took his nuts regularly every morning, and remained about the place until the following spring, when he disappeared once more, this time for good, for I never saw him again. Maybe the fascinations of the little squirrel with the light tail had lured him away into the depths of the woods, possibly some wanton person with a gun had ended his life, or, another possibility, old age may have overtaken him, but the latter is a fate that seldom befalls wild creatures. I must here protest against the shooting of squirrels. The worst that can be urged against this most beautiful and delightful animal is that it sometimes does harm to young firs by biting off the growing shoots, and that therefore it cannot be called a desirable inmate of young plantations, but in established woods it does no harm whatever. But in these remarks anent the harmlessness of the common red squirrel, that recent importation, the American grey squirrel, is *not* included. The latter is a pretty and quite charming creature, but if only half the reports one hears of its mischievous deeds are true, its release in this country is as great

a mistake as was that of the little owl. The grey squirrel shows a decided tendency to increase, spread out, and supplant our native squirrel. It needs careful watching lest it should get out of hand. In the London parks it is all right, but we do not want it to oust our red squirrel from its native woods.

Before closing this chapter I should like to refer to the fondness of the squirrel for the seeds of the Scotch pine and other firs. It will strip the hard woody cones to get at the seeds inside, and you will often find the ground in a pine wood littered with the remains of the squirrel's feasting.

Perhaps there is no place where a squirrel looks more lovely than when it is posed on the branch of a Scotch fir, the red-gold of its coat and plumelike tail showing up against the grey-green of the pine needles. It is indeed to be hoped that no misguided efforts to increase our fauna with American importations will lead to a reduction in the numbers of one of our most lovely native creatures, which is not very plentiful as it is, and which shows a tendency to decrease from natural causes, and is in no state to withstand the competition of a rival like the grey squirrel.

(*The common squirrel, which Linnæus named* Sciurus vulgaris, *has by modern systematists been divided into a number of races, no less than twelve being recognized in Western Europe. As there is*

not space here to describe them all, it will be best to state no more than that the British squirrel has been dubbed S. v. leucourus, *Kerr., and is distinguished, among other particulars, by its more drab-coloured tail, which is especially liable to fade.*)

CHAPTER XII

THE MAGPIE AND THE JAY

THE magpie and jay are two of the most sprightly and vivacious birds we have; they bubble with life, not to say devilry, as one may see in the flash of their bright eye and in the swagger of their consequential hop. How dull and uninteresting our woods would be without them. A party of jays will fill the dingles with life, as they hop about the trees, flit from bough to bough, or drop down to pry into this and that. Every little thing is investigated, peered into by sharp eyes, and turned over with a strong bill, for the jay, and likewise the magpie, is as inquisitive as anything that walks in feathers. As a matter of fact, save for a small step now and again, these birds always hop, and it is the most swaggering and consequential gait that ever a bird indulged in. But both species have excuse for behaving as if they think well of themselves, for smarter birds one could not wish to meet with, the jay in particular being a lovely creature. Whether it is up among the branches or down on the

moss and fern-covered woodland floor, it is equally striking and beautiful.

When a party of jays are in a wood their chattering wakes the echoes to life, and their lovely colouring and gay plumage give a touch of bright colour to the otherwise sombre scene. Through the subdued greens of hazel, oak, and ash, a jay passes like a glimpse of the tropics strayed into our quiet English woods. To describe its plumage in full detail would take up too much space here, but as it passes on the wing its conspicuous features are a white rump and white marks on its wings, its pinkish back, dark tail, and the flash of blue from the wing coverts. So complicated is the patterning that in the hand alone can the full beauty of the bird be appreciated. It is then seen that its bastard-wing, primary coverts, and outer great coverts, are a lovely sky-blue, barred with black, which black bars are narrowly lined with white; that the rest of the feathers of the wings are beautifully marked and shaded, varying from black to chestnut; and that the body plumage is a study in itself; so that, as already mentioned, it would need a long description to deal fully with the numerous details of markings and tints. But the bird is so unmistakable that it will not be necessary to enter upon any such minute description.

The jay is essentially a bird of the wooded country; now and again one may meet with it away from its beloved trees, but as a rule it

keeps to the shelter of the woodlands, and is nowhere so plentiful as in the West of England, where thick bush-clad dingles and much wild tree-covered country give it the hunting grounds that it loves. Here it ranges through the big coverts and out into the tree-dotted fields, adding that touch of colour and animation to the scene which no other bird can give, not even its striking and handsome relative the magpie, also classed, like the jay, in the family *Corvidæ*, i.e. with the rooks, crow, raven, etc.

For "brains" and general intelligence, for what I have heard described as having "mentality of a high order," this family cannot be beaten among birds, and high among a clever assembly I would place the magpie, with next to it its cousin the jay. Both, for cunning and general "cuteness," are hard to beat, but of the two the magpie is undoubtedly the more acute. How quick it is to become aware of danger, how quick to note the appearance of a man with a gun, and how cunning it is in the matter of traps! But indeed it needs all its wits about it, for every man's hand is against it. If it were not for its exceptional alertness, it must long since have been exterminated; instead, it is still far from being uncommon in any part of the country.

Before going on to deal with the magpie's character, and it is a bird with considerable character, it will be necessary to recall to the reader's mind its appearance. At first glance it appears to be

clad in a simple livery of black and white: here we have no delicately gradated tints, no colour scheme that would take two or three pages to describe adequately, but a bold and startling pattern which one can see half a mile off, and which is as conspicuous an advertisement as one can find in the bird world. But the casual glance is deceptive; a second look shows the magpie's colouring is not merely plain black and white. The white is certainly only white, but the glossy black feathers, especially the long ones of the tail, become on nearer examination, any and every hue save black. The feathers are exceedingly glossy, and glow with metallic lights, appearing purple, bronze-green, bronze, and lustrous blue. Certain areas reflect certain tints, so that what at first seemed such a simple colour scheme resolves itself after all into quite a complicated one, and a very beautiful one too.

Though common in every wood where it can escape the gamekeeper's deadly enmity, the magpie is not so essentially a forest species as the jay, but will wander out into the open country, when its conspicuous plumage and weak wavering flight proclaim its identity from afar, affording, according to the number of its party, an omen to those persons who are of a superstitious turn of mind. The country people have a rhyme which runs:

One for sorrow,
Two for mirth,
Three for a wedding,
Four for a birth.

As regards its flight, it really flies better than it appears to, getting along at a good pace, but the impression it makes is that it is a slow and feeble flier. However, whether in the air or on the ground, its peculiar and conspicuous colour pattern leaves no doubt as to its identity, for there is no other European bird like it, and its markings seldom vary, though when one does meet with freaks they are generally extraordinary ones. Take for instance a unique magpie that was shot at Wenlock in Shropshire.[1] The parts of the plumage that are usually black were a dull fawn, excepting the wings, under-parts and tail, which were nearly white, and the top of its head, which was grey. A further peculiarity was that it had abnormal tail and wing feathers, for they were hairy like those of a silky fowl. The latter characteristic is due to the absence of the minute hooks which in normal feathers hold the fibres together. But such a freak as this is very rare, and as a rule the magpie adheres strictly to its black and white uniform.

Some naturalists hold that the black and white of the magpie and the gay colours of the jay are warning or advertising schemes; that their beautiful and conspicuous hues are to let all carnivorous creatures know that they are not good to eat; but the point is, are these birds

[1] A full account of this magpie, and of another extraordinary specimen that was obtained at Longnor, Salop, was given by Mr. H. E. Forrest in the *Shrewsbury Chronicle*, June 3, 1921.

really distasteful? Is their flesh so bitter that hawks and owls will not eat them? My experience is that birds of prey would rather have other food, but will eat them if they cannot get anything else. I have seen, it is true, a wild sparrow hawk chase and knock down a jay. Against this it must be mentioned that trained sparrow hawks would not touch the flesh of either jays or magpies, when it was offered to them as food, unless they were exceedingly hungry, and even when "sharp-set" did not eat it with any relish. A tame tawny owl would not look at either bird, a goshawk, too, refused them; and as regards carnivorous mammals, foxes likewise seem to have a distaste for them; so, on the whole, the evidence appears to confirm the idea that they are not very acceptable to the predatory birds and beasts. Still it does not follow that their bright colours have been specially evolved to advertise the fact: it may merely be a question of being able to afford such hues, because they are not so palatable as to need special concealment; in fact, it does not matter whether they are seen or not.

For the greater part of the year neither the magpie nor the jay attempt to keep out of sight, but both flaunt boldly through the trees, as if rejoicing in their brave attire. For sheer "swank" and "swagger," however, we must undoubtedly award the prize to the magpie, which, when hopping about on the ground, seems the personi-

fication of self-importance. It hops about with a swing of the tail and a roll of its body, with such a knowing look in its beady dark eye, and such an impudent cock of the head, that the onlooker cannot help but laugh; indeed, a party of magpies feeding out in a meadow is a most amusing sight. They hop about so busily, turning over the cow manure, hunting for insects, and then stopping to have a dispute. Not long ago I watched some that were busy among a flock of sheep. One of the magpies suddenly hopped up on to the back of a sheep that was lying peaceably at rest, whereupon another hopped up after it. The first turned round and chattered angrily at the second, but number two was not going to give ground, and a fight began. Up and down the sheep's broad woolly back they danced, until one drove the other up on to its head, which disturbed even the sheep's placid serenity. It shook its head, rose with deliberation, and tilted the combatants off its back on to the ground, where, swinging their tails in high disdain of each other, they hopped off in opposite directions, and resumed their business of searching for insects and worms among the sheep droppings and the cow manure.

Both the magpie and the jay are great insect eaters, devouring quantities of grubs, caterpillars, etc., but, unfortunately for themselves, they like other things as well; indeed, there is very little they will not eat, from carrion, eggs, and

young birds, to acorns and berries. The magpie especially is a terrible egg thief, for, with his nimble wits and quick eye, he has no trouble in locating the nests of pheasants, partridges, and wild ducks, to say nothing of those of smaller birds, and so takes a heavy toll, Yet without any wish to underrate the magpie's ability, I cannot consider it in the same class as the rook in the matter of egg stealing Long and bitter experience of the latter bird, having lived for years in the neighbourhood of a very large rookery, has convinced me that rooks, as regards egg thieving, are worse pests than all the magpies and jays put together! The rooks hunt the fences regularly and systematically for nests, and this whether the weather be wet or dry (the excuse that has been put forward, that the rook only sucks eggs in dry times to quench its thirst, is mere rubbish!); they come round the orchards and farmyards, and are far bolder than their woodland cousins. Still, "two blacks do not make a white," and it must be admitted, as said before, that the magpie not only has quite a taste for eggs, but has a keen eye for the nests of small birds in hedgerows and bushes, also for the hidden eggs of pheasants and partridges lying in the fence bottoms or concealed beneath fern and grass. With its cunning eye and sprightly manner it soon locates them, when it is but the work of a few minutes for it to wreck them all. With its strong thick bill it hammers a hole in the side of each egg,

through which it drinks its contents. Very often the eggs are not sucked in the nest but carried a little way off; however, there are generally enough shells left in the nest to betray the identity of the culprit. This little weakness on the part of the magpie has earned it the undying hatred of game-preservers and keepers, whose war against it, waged with gun and trap, has certainly more justification than has their destruction of some other birds and beasts; yet personally I never see a row of magpies swinging from the keeper's gibbet without a pang of regret, for they are representative of that everlasting strife between man and wild life in which so many species have been worsted, being reduced to exceeding rarity, or even exterminated.

The magpie, at any rate, is not at present in any danger of extermination, for it is an elastic species, and when the pressure is removed by ever so little its numbers soon increase. During the war it increased most markedly, as did the jay. Keepers left their work to fight in France or Flanders, to help on the land or in munition factories, shooting and game-preserving came to a standstill, and both the magpie and jay profited by the opportunity and increased accordingly. The magpie especially multiplied surprisingly fast, appearing in numbers all over the country, its cheery chuckling chatter being heard again in woods from which for years it had been exiled. The jay, too, flourished and

increased, but the alteration in its numbers was not so apparent, for it keeps more strictly to the shelter of the coverts and is therefore not so noticeable.

Of the two birds the jay is really the more generally plentiful, but the magpie is far and away the most conspicuous, bringing itself before the public eye, and even in its nesting habits showing little wish for retirement. We all know its large domed nest of twigs, for it is a noticeable object wherever placed. Sometimes it will be situated in a tall old hawthorn hedge, at others in the top of a high oak, but whether the site be in a tree or bush, the owners generally take good care that the spot is not too accessible; indeed, the nest is generally very difficult to get at. Considering the size of the bird, the nest is a big one, the diameter from the bottom to the top of the dome being often two and a half to three feet. It is built of small sticks and twigs, generally thorny ones on the outside, the nest itself being lined with earth, and over that an inner lining of fine roots; the whole being covered by the dome, which is invariably made of thorny sticks, through which a small hole gives entrance to the interior, so that the nest is well barricaded against would-be enemies.

Magpies pair in February, building being begun in March, when new erections appear in the covert-side trees, or old mansions undergo repair. Many books on birds say that old nests are usually done up, and that it is the rule for

them to be used again, but after seeing scores of new nests built spring after spring, and having only found one case of an old nest being repaired, I think that, far from being the rule, it is quite the exception.

The magpie's eggs are like those of the blackbird, only larger, but vary considerably in tint and markings. They are generally laid towards the middle of April, by which time the bulky nest has been finished and everything is ready for the great business of the year. The clutch is usually five or six in number, but more may be met with. The hen soon begins to incubate the eggs, and, secure in her thorny fortress, does not quit them for any slight alarm. It is surprising what an amount of noise she will put up with before she flies off. There was a nest in a very high fence which I believed was occupied, and to make sure I hit the stem of the hawthorn with my stick, which had no effect whatever; my light taps became heavy blows, yet still nothing happened. However, I was convinced that there was a magpie at home, so got hold of a main branch and began to shake the bush. After an extra vigorous shake I looked up to see if anything was happening above, looked up, unfortunately, at the very moment that the magpie had decided she could stand no more, and was about to leave. My intention was to call to my companion that we had made a mistake, and there could not be anything in the nest, but my remark was never uttered, for as

I opened my mouth to speak the bird flew away, and I received full in the face what we will for the sake of politeness call her "blessing!" Oh! how my companion laughed! Oh! how I spit and tried to clear my mouth of the filthy and disgusting stuff that had gone into it! It was a horrible episode, and the magpie was well revenged for being wantonly disturbed.

Both the old birds work hard to keep the nestlings supplied, and with half a dozen hungry young ones to satisfy they have no light task; but once they get the family out of the nest their troubles are more or less over, for they have but one brood in a season. It is true that if a pair of magpies lose their first clutch of eggs, they will speedily make another nest and lay a second, but having succeeded in launching a family into the world, they resign domestic cares and worry no more, that year, about nest building. By the way, I am of the opinion that when an old nest is repaired and made use of again, it is by birds that have been disturbed from their original nest and are in a hurry for fresh housing accommodation. Nesting magpies, despite the excellent defences of their strongholds, have much to put up with; their mansions are so noticeable that nest-hunting boys and keepers are alike attracted to them, and any pair that are visited by one of the latter are sure to meet with trouble. If, however, one of the pair escapes a tragic death from the keeper's gun, it quickly finds another mate; indeed, it

is astonishing how soon a new cock, or a new hen, as the case may be, comes forward to console the bereaved one. There must be quite a number of unattached birds of both sexes about the country-side, yet one hardly ever sees a solitary magpie, other than lone cocks when their mates are sitting. Yet bachelor birds must exist, for if not where do the new mates spring from so quickly?

The magpie is a very sociable bird, it likes company, and the family parties do not break up, but remain together through the autumn and winter. Sometimes several families will join forces, but this can only happen in those parts of the country where the bird is fairly plentiful and not much persecuted. I have seen flocks on two or three occasions, the largest being one of from fifty to sixty birds, or possibly more. They were in a small coppice, the wood seeming quite alive with them, and, as I was on horseback, they took no notice of me, but continued to hop to and fro very busily about their business. I counted over fifty and there were certainly more, possibly over sixty.

Though the jay is also of a sociable disposition, it never flocks, i.e. the family parties do not combine, but each clan "keeps itself to itself." But I am getting on too fast, for nothing has yet been said about the jay's nesting habits. Noisy and impudent as the bird may be at other times of year, a great change comes over it in the early spring, when its talkativeness gives way

to a quietness which is almost morose. It no longer chatters as it goes, but slips through the woods as silently as a shadow. You may then listen the long day through and never hear a jay utter a sound. One might imagine the cheery chatterers had gone, leaving the trees sober and quiet without them, but here and there one catches a glimpse of a white rump, a dark wing, or those bright blue wing coverts, betraying that the gay owners are there all the time. The fact is that with the advent of the nesting season a great change comes over the jay; the care-free joyous bird is transformed into a shy careful creature, slipping quietly through the trees, and uttering only the most subdued of chuckles, so as to escape notice and not draw attention to its nest. It thus escapes observation, and its nest is difficult to find, so that more often than not the family are launched into the world before one is aware that there was a nest near at hand. The nest is usually built in bushes in the woods at from five to twenty feet from the ground, and is an open one, made of sticks and twigs, strengthened with a little earth, and lined with fine roots. The eggs are not unlike those of a blackbird, though, of course, bigger, but the spotting is much finer, and as a rule there is a black hairline at the bigger end.

When the young leave the nest they remain with their parents, roaming the woods, and waking the echoes with their chattering, for,

now that there is nothing to conceal, even the old birds find their voices again, which they use on any and every occasion. Let a fox move from his lair in a bramble bush, a stoat chase a rabbit from its burrow, or a poaching cat wander down the woodland ride, and they will scream and chatter until all the wild world knows that something is astir. And not content with letting all and sundry know what is going on, they follow the disturber of the peace, peering down at it with those sharp bright eyes of pale skimmed-milk colour, hurling abuse from the tree-tops, and giving it no rest until it seeks shelter somewhere where those keen eyes cannot penetrate.

The calls and cries of the jay are legion, varying from a subdued little chuckle up to a harsh scream; in addition it is a wonderful mimic, copying the other inhabitants of the coverts, and even imitating the hoot of the brown owl. Unless you have listened while a party of jays work around you, it is impossible to have any idea what they are capable of. They seem to take a pride in their mimicry and to delight in copying other birds.

The jay is really a very successful creature, for, despite the amount of persecution it has to endure, it is common throughout England, Wales, the Lowlands, of Scotland, and in Ireland, and is equally plentiful on the Continent, ranging right across Europe into Asia. At least birds closely resembling our English jay are to

be found throughout the area mentioned, and others not very dissimilar occur even in China and Japan. However, according to the latest students of birds, it is not one species that ranges over these thousands of miles, but many distinct ones, which are again divisible into geographical races or sub-species; for instance, these authorities recognize the Irish jay as distinct from the English, and the latter as being a separate form from that found on the Continent; but the differences are slight, mere shades of plumage, the Continental jay being more grey than the English, while the Irish is slightly darker; so that the practical field naturalist, who is concerned with the live bird and not with dried skins, will feel more than a little doubtful as to the justification for such subdivision. He knows how birds and beasts vary, that the same wood may supply individuals that differ considerably, and even the describers of these sub-species confess "they are indistinguishable in the field."[1]

It is of the jay "in the field," or rather in the wood, that is being dealt with here, and in concluding this chapter on it and on the magpie, it only remains to be said that whatever the game-preserver's feelings concerning these two birds may be, they are among the most charming, beautiful, and interesting of woodland birds, no creatures being more fascinating to watch and study.

[1] Witherby's *Handbook of British Birds*, p. 28.

(*The European jay,* Garrulus glandarius *of Linnæus, is found throughout the Continent, across Russia, into Asia, also in North-West Africa, but it has lately been divided into many sub-species—some sixteen being recognized—that of the Continent has been dubbed* G. g. glandarius, *the one found in Great Britain is called by Hartert* G. g. rufitergum, *and that peculiar to Ireland has been named* G. g. hibernicus *by Witherby and Hartert. The differences between the forms are but slight, as mentioned in the above chapter.*

The magpie, Pica pica *Linn., ranges from Ireland, across Europe, into parts of Asia, with little variation in Europe. The only differentiated form being the black rumped magpie of Spain and Portugal, which has been given sub-specific rank under the designation of* P. p. melanota.)

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